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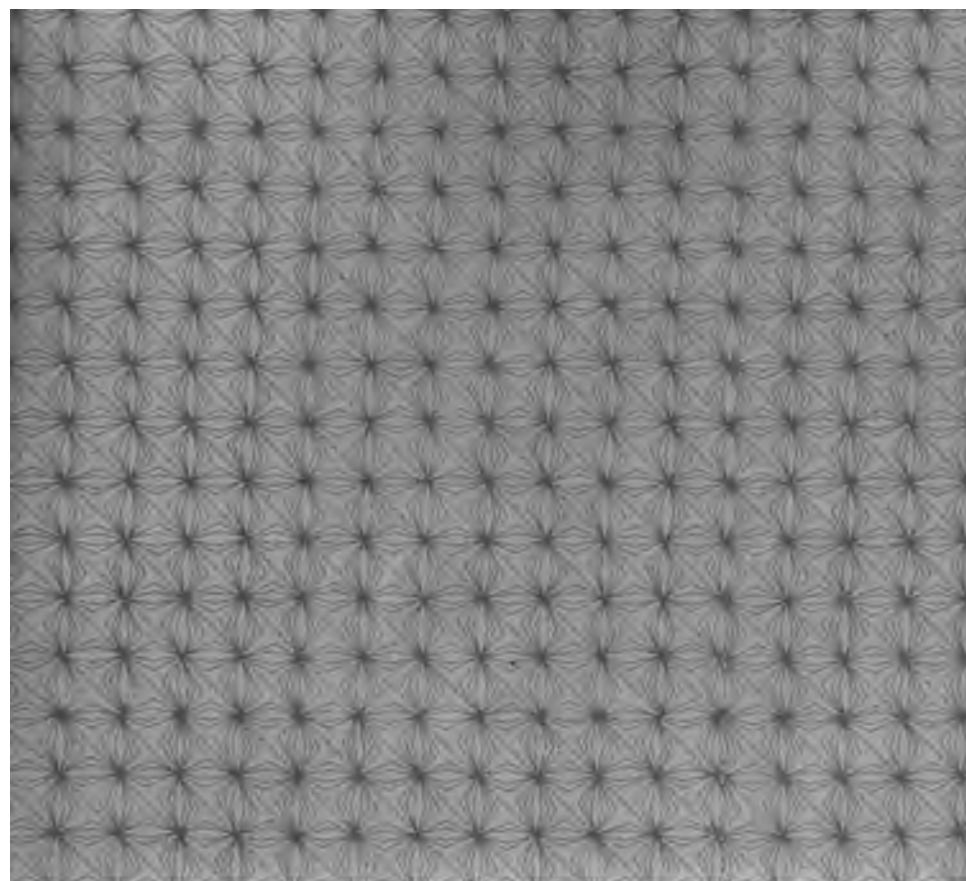
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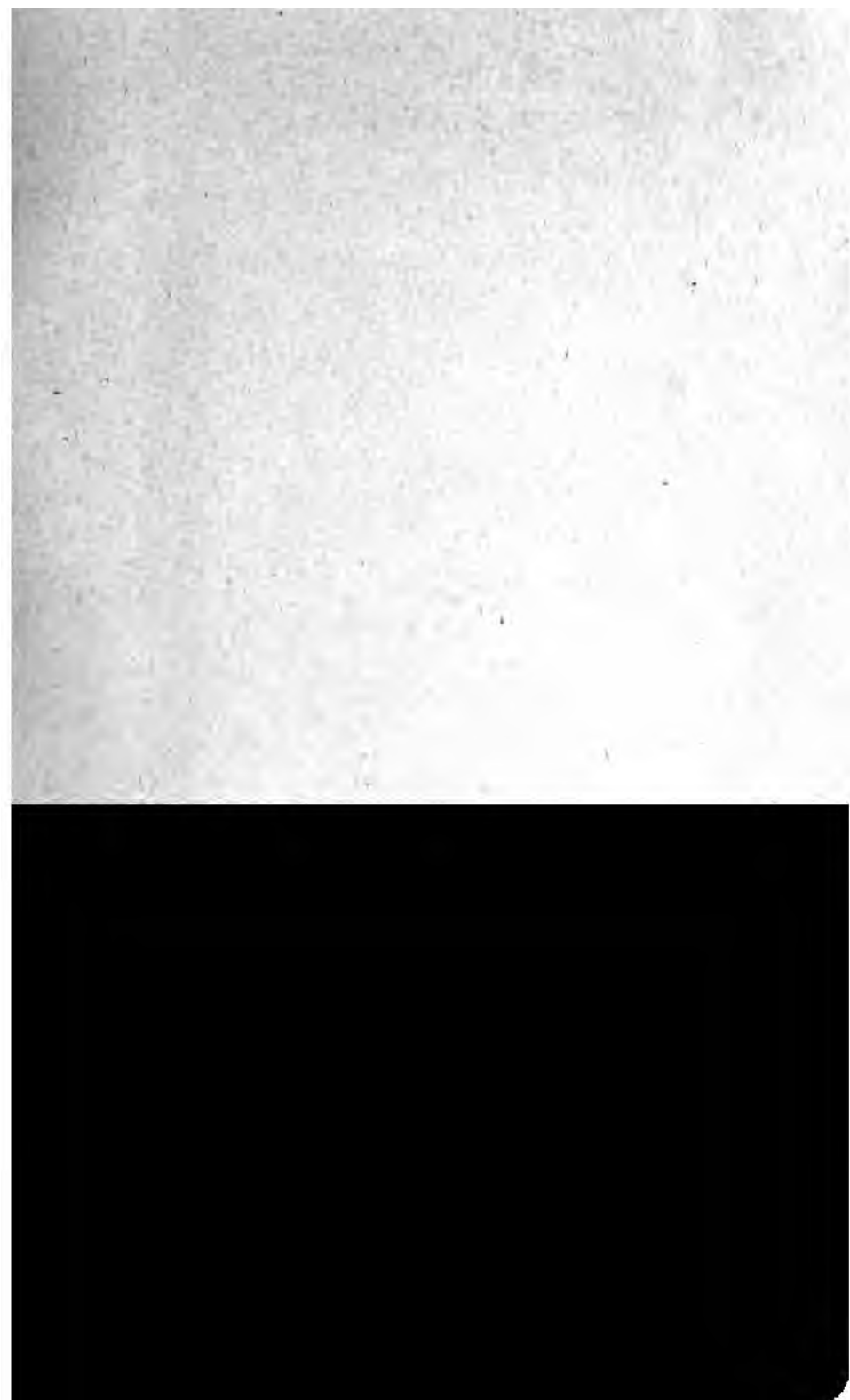
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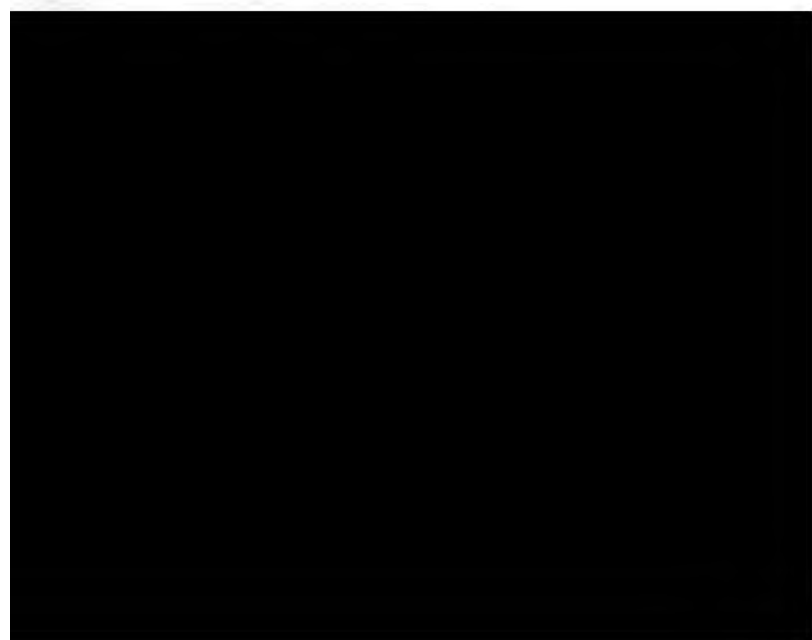
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Yours Truly  
John W. Sandler

THE  
ECLECTIC  
FAMILY PHYSICIAN

BY

JOHN M. SCUDDER, M. D.

LATE PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE ECLECTIC  
MEDICAL INSTITUTE; AUTHOR OF THE ECLECTIC PRACTICE OF MEDICINE; DIS-  
EASES OF WOMEN, DISEASES OF CHILDREN; MATERIA MEDICA AND THERA-  
PEUTICS, THE PRINCIPLES OF MEDICINE; SPECIFIC MEDICATION,  
SPECIFIC DIAGNOSIS; ON THE REPRODUCTIVE ORGANS AND  
THE VENEREAL; THE USE OF INHALATIONS, ETC.

TWENTY-SECOND EDITION—FIFTH REVISION.

TWO VOLUMES IN ONE WITH APPENDIX.



CINCINNATI:  
QUEEN CITY BOOK COMPANY.  
1895.

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Yours Truly  
John M. Sander

THE  
ELECTRIC  
FAMILY PHYSICIAN

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THE PRINCIPLES  
OF ELECTRIC  
DISEASES

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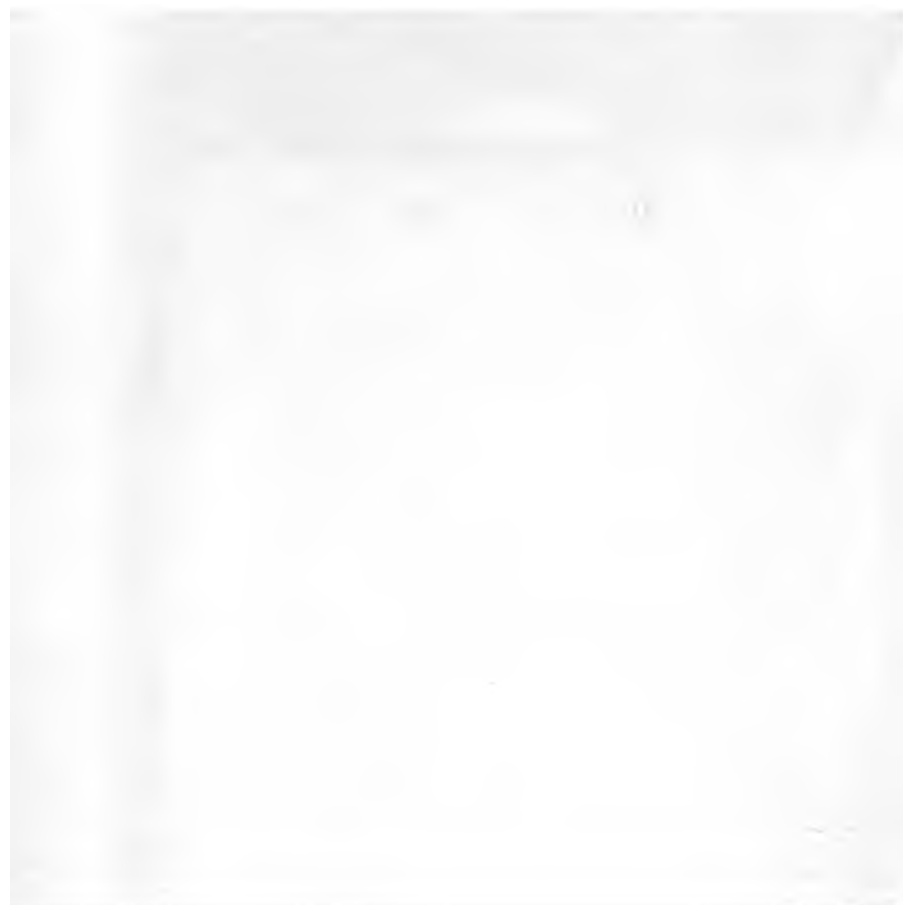
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should they use a sound discretion in selecting a medical adviser, and avoid ignorant pretenders, and patent nostrums, using their reason from absolute knowledge, and not governed by emotional impulse, or by novelty or superstition. The reasons why they do not, present themselves to me as follows: First, physicians in all ages have tried to confine a knowledge of medical subjects to their own profession, and have successfully accomplished their purpose by making it a breach of *medical ethics* to write on medicine for the people. Second, the public have been instructed to believe that these subjects are beyond the ordinary powers of comprehension; that there is something impure, if not sinful, in their study, and that it would be a great breach of propriety, if nothing worse, to endeavor to learn that which has so strenuously been kept from them.

The human body is perfect in all its parts, and adapted by its Creator to supply all the earthly wants of the soul, which is placed within it. Nothing displays the wisdom and beneficence of God in a higher degree; and we might say, with the eminent anatomist, Cruveilhier, "While contemplating the marvelous organization, in which all has been arranged with such intelligence and wisdom, that no fiber can acquire the slightest addition, or undergo the least diminution, without the equilibrium being destroyed, and disorder induced — what anatomist is there who would not feel tempted to exclaim with Galen, that a work on anatomy is the most beautiful hymn which man can chant in honor of his Creator?"



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the care of the sick, and were called physicians. Thus in Jeremiah viii: 22, the prophet says: "Is there no balm in Gilead; is there no *physician* there? why then is not the health of the daughter of my people recovered." And in Job xiii: 4—"But ye are forgers of lies, ye are all *physicians* of no value." Again in Proverbs xxvii: 22—"A merry heart doeth good like a *medicine*, but a broken spirit drieth the bones;" a saying as true to-day as when spoken by Solomon. Jeremiah again speaks of medicine xxx: 13—"There is none to plead thy cause, that thou mayest be bound up: thou hast no healing medicine." In the New Testament we frequently read of physicians and medicine, and every reference tends to show that the art was held in high esteem. Still the practice of medicine must have been in a very rude and imperfect state, as they knew but little of anatomy and physiology and the kindred sciences, and we are forced to the belief that it consisted in a traditional knowledge of the action of vegetable remedies.

Renouard in his history of medicine remarks: "We have seen that the first notices of medicine go back to the earliest infancy of society, in all the countries of the world; so that we may repeat the statement of Pliny, that if there exists any nation which, at any epoch of its history, was without physicians, there is not one in which we do not find some vestiges of medicine."

Greece, which was for so many centuries the center of civilization and arts, first developed medicine as an art, and had physicians. Even here the history of medicine is clouded with the mythology of the times. The Centaur Chiron is said to have introduced the art of medicine into Greece, and rejecting the fabulous accounts of his compound form, historians consider it probable that he was a prince of Thessaly, who lived about the thirteenth century before the Christian era. To his pupil Æsculapius, however, is ascribed the merit of first devoting himself to the cultivation of medicine as a science, and of having made

medicine. Galen, who obtained his knowledge at this place, about the one hundred and fiftieth year of the Christian era, was the most celebrated physician of his time. He afterwards resided in Rome, and was the favorite of the Emperors during its most prosperous days. His works have come down to the present day, and though crude and imperfect, they are still far superior to those that had preceded him. For over a thousand years his writings were deemed nearly perfect, and were authority for the majority of physicians.

From the time of Galen to the commencement of the fourteenth century, there was a gradual decline in medicine, as there was in all sciences, until in the dark ages it had sunk almost to its primitive condition. During this period anatomical research was abandoned, and the books of Galen obscured by the comments of ignorant men were the only guides. For a portion of this time medicine was cultivated by the Arabs with considerable success, but with their decline the most of this knowledge was lost.

From about the year 1315, the study of anatomy was again pursued by dissections of the human body, and from this time we discover a slow but permanent advance in medical science.

Paracelsus, who was born about 1506, though a man of no principle, and considered by his compeers as almost insane, was the father of the mineral treatment. Though known before, he introduced into general use, preparations of mercury, antimony, gold, &c., and claimed that in them he had found the essence of life. Like many who have followed him in the use of the same means, we are informed that his practice was very unsuccessful, so much so that he could not remain longer than a year in a place. Not only so, but Andrew Libanius assures us "that he injured a multitude of people and did not cure them; and that he killed a good number, or put them in a worse state than he found them."

Up to the year 1600 medicine advanced but slowly,



proof, and make all remedial measures conform to it. Theory has been the constant clog to the practice of medicine, as doctors are the most stubborn of men and will never give up a theory if it can be avoided. Not only are they noted for stubbornness, but they have a high regard for authority, and will rarely act unless they can find a precedent.

Naturally we would expect to find changes progressing slowly, and improvements would have to be well tried and stand the test of time before they would be received as a part of medical knowledge. Reform in medicine or the propagation of new ideas, is not tolerated, and he who endeavors to get in advance of the present state of the science will meet with most bitter opposition. Thus when Harvey discovered the circulation of the blood, he was denounced as a charlatan, and the profession were so exasperated that nothing too severe could be said against him. So, likewise, when Jenner published his discovery of vaccination as a preventive of small-pox, nearly the whole profession rose up in arms against him. He was denounced from the pulpit as flying in the face of the Almighty, endeavoring to thwart his purposes, and the physicians accused him of desiring to introduce a horrid disease from the animal, which would render the sufferer beastly if it did not maim him for life. He lost his private practice and his good name on this account, and it was not for some ten or fifteen years that the merits of his discovery were recognized.

So it is in the present day. Those who twenty or thirty years since commenced their efforts to arrest the destructive use of the lancet, mercury, antimony, etc., were denounced as quacks and empirics, and every effort made use of to put them down. They convinced the people that these medicines were injurious, and thus effected a radical change in medical practice. The most prominent systems of medicine in this country at the present time, are the Old School or Allopathic, the Homœopathic and the Eclectic.

tissue. It is a well established law that the system will take cognizance of but one morbid process at a time, and thus if an artificial disease is excited of sufficient intensity, time is given for the original disease to get well, when the artificial one will subside of itself.

Though there is no doubt of the correctness of these positions, it may well be doubted whether it is a successful mode of medication. Thus it was formerly taught that the constitutional impression (disease) of mercury would in this manner cure fevers, inflammations, syphilis, etc., but experience has proven to us that the mercurial disease is worse than the maladies for which it was induced, and that it would have been better for the patient to have left the disease to the natural powers of the system.

All physicians except the homœopaths, practice to a considerable extent on the *antipathic* method. This consists in the use of appliances or medicines that produce effects of a nature opposed to the symptoms of the disease, hence the axiom, *contraria contrariis opponenda*. Hippocrates may be regarded as the founder of this doctrine, as he says: "All diseases which proceed from repletion are cured by evacuation; and those which proceed from evacuation are cured by repletion. And so in the rest, contraries are the remedies of contraries." Much of the practice of the present day is based upon this principle. Purgatives are given to relieve constipation; cold is employed to alleviate the effects of burns or scalds; narcotics to abate pain, etc.

Though physicians generally adopt the two methods of cure above named, they not unfrequently give medicine that acts upon the law, *similia similibus curantur*, or in plain English, that *like cures like*. They do not claim that either is perfect, but employ sometimes one, sometimes another, as experience dictates, believing that a *rational empiricism* is the best guide in the practice of medicine.

Our *old school* brethren are noted for their illiberality, their self esteem, and their antipathy to change. Ever ready

to investigate anything that is stamped as legitimate, born within the ranks, and that does not conflict with their prejudices, they reject with contempt anything that comes to them from without. They have changed greatly within the last twenty years, and the change is still going on, and we hope that the old errors will be forsaken in twenty years more.

### HOMŒOPATHY.

The *Homœopathic* method of practice is that founded by Dr. Hahnemann upon the maxim "*Similia similibus curantur*," or in exhibiting remedies capable of producing effects similar to the disease for the removal of which it is given.

A few of the many examples claimed by the homœopaths as evidences of remedial agents producing effects similar to those of the disease for which they were administered, and by their so-called secondary effects proving curative, may serve to illustrate the doctrine which they maintain to be the only true one.

They assert that white hellebore has cured patients attacked with violent cholera, and yet it caused a disease similar to cholera, when exhibited. In a disease attended with great sweating, which occurred in England, called the "sweating sickness," it was treated successfully only by the use of sudorifics. Purgatives will cure the dysentery; tobacco occasions nausea and giddiness, and relieves the same; senna occasions colic, and is one of the remedies for this disease; ipecacuanha cures dysentery and asthma, because it produces hemorrhage and asthma; belladonna causes a sense of choking and horror of liquids, with fixed and sparkling eyes, and propensity to bite attendants—in short, a disease having the semblance of hydrophobia, which it is said this agent has cured. Opium relieves lethargy and stupor by converting it into natural sleep, and the same agent is a cure for constipation. The



vaccine disease protects from small-pox upon the same principle. Cold, either in the form of snow, cold water, or some freezing mixture, is found to be the best application to frost-bitten parts. In scalds or burns, relief is obtained by exposing the part to *heat*, or by the application of heated spirits of wine, or oil of turpentine. We can not better illustrate Hahnemann's views of the action of remedies, than by giving the language of Pereira. "The medicine sets up in the suffering part of the organism an artificial but somewhat stronger disease, which, on account of its great similarity and preponderating influence, takes the place of the former, and the organism from that time forth is affected only by the artificial complaint. This, from the minute dose of the medicine used, soon subsides, and leaves the patient altogether free from disease; that is to say, permanently cured."

Hahnemann conceives that the secondary effects of medicines are always injurious, therefore he recommends that no more be given than is absolutely necessary to cure the disease. Proceeding upon this principle, he has reduced the doses of medicines to such a minute state of division, that in many cases no human intellect is capable of appreciating the slightest influence from their administration. Many of them, when exhibited in full or ordinary doses, produce effects scarcely appreciable, and when reduced to the millionth, quintillionth, or even decillionth part of a grain or drop, (the usual dose being large, say one or two drachms of the powdered article, or sixty drops of the tincture,) how they then can exert any controlling influence over a disease that is grave, if they do so, as is asserted, is a mystery incapable of being solved by finite minds. To give credence to such a doctrine requires a stretch of imagination that we imagine few possess.

The method of obtaining these minute doses consists in reducing the solid to a powder, and mixing one grain of it with ninety-nine grains of sugar of milk—this is called



the first *attenuation* ; the second attenuation is obtained by mixing one grain of the first attenuation with ninety-nine grains of sugar of milk ; and the third by mixing one grain of the second with the same quantity of sugar of milk, as before. In this way Hahnemann proceeds to the *thirtieth attenuation*. Water is the diluent of liquid medicines, and the attenuations are obtained in the same manner—that is, by mixing one drop of the mother tincture or liquid with ninety-nine drops of water, and in this manner continuing the dilutions up to thirty, as in the case of solid substances.

The annexed table shows the strength of the different attenuations :

|                     |                                  |
|---------------------|----------------------------------|
| First attenuation,  | —one hundredth part of a grain.  |
| Second attenuation, | —one thousandth part of a grain. |
| Third               | “ “ millionth “ “                |
| Sixth               | “ “ billionth “ “                |
| Ninth               | “ “ trillionth “ “               |
| Twelfth             | “ “ quadrillionth “ “            |
| Fifteenth           | “ “ quintillionth “ “            |
| Eighteenth          | “ “ sextillionth “ “             |
| Twenty-first        | “ “ septillionth “ “             |
| Twenty-fourth       | “ “ octillionth “ “              |
| Twenty-seventh      | “ “ nonillionth “ “              |
| Thirtieth           | “ “ decillionth “ “              |

The minuteness of the dose is carried to the same extreme, as seen by the following table, as presented by Pereira :

|  |
|--|
| Charcoal, one or two decillionths of a grain.    |
| Chamomile, two quadrillionths “ “                |
| Nutmeg, two millionths “ “                       |
| Tartar emetic, two billionths “ “                |
| Opium, two decillionths “ “                      |
| Arsenious acid, one or two decillionths of a gr. |
| Ipecacuanha, two or three millionths of a gr.    |

Such are the doses of the medicines used by this class of practitioners. They are exhibited in the form of pills

(pellets or globuli,) each pill being about the size of a poppy-seed.

Hahnemann asserts that the longer a powder is triturated, or the more a mixture is agitated, the greater will be the effect of the powder or mixture upon the system; indeed, he found rubbing or shaking develop the inherent virtues of medicines to such an extent, that he says, latterly: "I have been forced, by experience, to reduce the number of shakes to two, of which I formerly prescribed ten to each dilution."

Such are the doctrines, and such an outline of this far-famed system of infinitesimal practice.

The principal facts urged against the doctrine, may be embraced under four heads:

1st. Many of our most certain and valuable medicines do not act homœopathically; sulphur does not produce scabies, nor does cinchona, or any of its preparations, give rise to intermittent fever; and yet these agents are used with great certainty for the removal of the diseases named, and no one questions their utility. Andral took quinia without contracting intermittent,—and who has seen that disease, or one similar to it, follow the use of cinchona? We have often employed it, without ever witnessing such results. It may be urged, however, that the diseased state which previously existed, precluded the development of that disease. Nor have we ever seen scabies follow the use of sulphur; but, perhaps, the homœopathist might say the existence of a previous morbid state acted as a barrier to its occurrence. Acids and vegetable diet cure the scurvy, but they never produce a disease analogous to it.

2d. Pereira asserts that many homœopathic remedies would increase the original disease, as acrids in gastritis, cantharides in nephritis or cystitis, or mercury in spontaneous salivation.

3d. The doses in which these agents are exhibited, are so exceedingly small, that it is difficult to believe they

that rigid regimen, that scrupulous avoidance of every article of diet of an oppressive or indigestible character, leave nature free to act, and does it not invite her to assert her own prerogative?—does it not leave the *vis vitæ*, the *vis medicatrix naturæ* unoppressed, unobstructed, and independent, by which her powers rally, and she throws off disease, and abnormal action is arrested? May we not reasonably account for many cures in this way? We think it is not unreasonable to award much credit to this system of practice, upon the grounds above named. Then if it be not regarded as positively curative in this respect, so far as a system of medication is concerned, yet it is important for the reason that it leaves nature free to act and rid herself of disease, and is, therefore, to be regarded as a highly valuable mode of *negative medication*. Do we not daily see febrile and inflammatory diseases relieved in this way, without a particle of medicine? Every one of common observation knows this to be an indisputable fact. How often do we see many of the most obstinate diseases relieved by the unaided efforts of the system. We have often seen patients recover, who we believed to be dangerously ill, but who, from an aversion to drugs, a fear of poisonous agents, penuriousness, or some other cause, did nothing of an active character. Then may we not truly say, nature is all-powerful in throwing off disease. If, then, nature effectually eradicates a vast number of diseases, and those that baffle the skill of the most experienced physicians, even when called at an early hour in their course, and aided by the best of care, may we not reasonably conclude that recoveries would be very numerous if no physician of any kind was called, and no medicine administered.

May we not reasonably and justly conclude, from what has been just stated, that the *attenuated* form of medication—the *infinitesimal doses*, often receive credit when none should be awarded to it; that their influence is imaginary, and not real; that they exercise no positive curative agency



from the homeopathic system to administer it in smaller quantities, to give it less frequently and with a definite object in view, and above all, to *repose more confidence in the recuperative powers of the system*, when untrammelled by the use of nauseous, and often oppressive and disease-creating drugs. In this light we view homeopathy as positively advantageous, and as calculated to bring about, or aid in bringing about, an important reform in the practice of the healing art.

We regard the principle of "*Similia similibus curantur*," as laid down by Hahnemann in the administration of medicine, as true in some cases, but not as being an infallible or invariable rule, by which the physician is to be governed in all cases. Disease was treated upon this principle long before the day of Hahnemann; but when disease is treated in accordance with this axiom, the remedy, in order to prove effectual, must be given in sensible doses.

### ECLECTICISM.

Eclecticism in medicine has prevailed, to a very considerable extent, from the foundation of the Alexandrian library to the present time. At some periods they were termed Empirics, at others Methodists, at others Eclectics, and were always opposed to the Dogmatists. These latter adopted certain theories or dogmas, and made them the basis for their practice. These were, necessarily, very crude, and often possessed not the slightest foundation in fact, as their knowledge of anatomy, and especially of physiology, was most meager. Those who would not adopt these theories, were forced to take the ground that observation and experience were the true guides in the practice of medicine.

The term *Eclectic*, by which a large and growing class of the medical profession are now designated, is derived from a Greek word which signifies *to choose*; we use it,

however, in both the past and present tense—we have chosen, we are constantly choosing.

We have chosen, what? To answer this question properly it will be necessary to glance at the medical practice of forty years ago, at the time this medical reform was commenced. At that time we find that the principal agents used in combating disease were *calomel*, *tartar-emetic*, *arsenic*, and the *lancet*: the theory was that in all acute diseases there was an excess of vitality, and that this must be reduced by depletion before the patient could recover. The results of this practice and the theory upon which it was based, were very unsatisfactory, especially to the people who had to suffer the penalty—in many cases loss of useful lives, in others constitutions broken down, the patient being but the wreck of his former self.

*Calomel* was the *Saccharum* of medical agents in those days, and there was no disease in which it was not recommended and used. Thus we find in *Macbriar's Practice of Medicine*, published as late as 1844, this agent was recommended in every disease named except six. Those who can recall the practice of even twenty years back, know that when the doctor was asked the first thing given in almost every case was *calomel* and *opium*, and very frequently it was the last and in fact was nearly or quite all. In the Southern and Western States it was used in moderation, but in the Eastern States it was spoonful at a dose. Many will remember that Dr. Cook, of Louisville, that when a patient after the use of the remedy the next day would be better, the next, quadruple it the third day, and so on until he had authentic accounts, one-fourth of a grain of it was used in bilious fever, over one grain was used in pneumonia. To thinking minds this indiscriminate use of the agent in all diseases, should have been evidence of the great folly of employing a physician. And, however it would be people had been permitted to think. The last result following the use of this agent was that medicinal prep-

arations, are at this day known to all; in other publications their effects have been sufficiently pointed out. *We have chosen to discard this agent and replace it with vegetable remedies that "never" leave a disease worse than that for which they were given.*

*Tartar-emetic*, though not resorted to as frequently as calomel, was guilty many times of *manslaughter*. Thus in the days that I speak of, it was thought that inflammation of the lungs could not be treated without the use of this agent. In proof that it is clearly chargeable with murder, let us examine the statement of Dr. Deitl. In order to show the comparative value of treatment, he reports three hundred and eighty cases of inflammation of the lungs. Eighty-five were treated by blood-letting, one hundred and six by large doses of tartar-emetic, and one hundred and eighty-nine by diet and rest alone. Of those treated by blood-letting, seventeen or 20.4 per cent., died; of those treated with large doses of tartar-emetic, twenty-two, or 20.7 per cent., died; while of those treated by diet and rest, only fifteen, or 7.4 per cent., terminated fatally. These were cases of a similar character, and yet we see that the cases being as one hundred and six tartar-emetic to one hundred and eighty-nine diet and rest, this agent is chargeable directly with the lives of at least ten persons. *We therefore choose to discard this agent.*

Arsenic, though not as frequently used as the other two, has yet a large amount of suffering, and even life to answer for. Pereira, an eminent authority, states, that "Small doses of *arsenious acid*, continued for a long period, act as a slow poison; and if persevered in, will ultimately occasion death. The same effects take place in a shorter period, from the administration of large medicinal doses. Sometimes the digestive apparatus, at other times the nervous system, first show symptoms of the poisonous operation of this agent. Hahnemann has graphically described the condition of *slow poisoning* by arsenic, as "a gradual sinking of the powers of life, with-



out any violent symptom; a nameless feeling of illness, failure of the strength, an aversion to food and drink, and all the other enjoyments of life." Notwithstanding these facts are known to the profession, we find that this agent is still employed, two lives, to my knowledge, having been lost within the last year by slow medicinal arsenical poisoning. We choose to discard this agent because of its dangerous character.

BLOOD-LETTING.—Forty years ago, yes, even twenty years ago, blood-letting was the fashion, and both physicians and people supposed, that acute diseases could not be treated without it. Bleeding was so common that it was customary with some to be bled every spring, sometimes twice a year, as a *preventive* measure to ward off disease. "The inveterate theoretical bleeder," says Dr. Ticknor, "will bleed in the most opposite states of the system; he will bleed to check the circulation, when it is too rapid, and to subdue febrile reaction—when the circulation is depressed, he will bleed to restore it, and to increase the heat of the body when it is below a healthy standard—he draws blood to subdue reaction, and to excite it—he calls bleeding a sedative, and again he says it is a stimulant. With such a man bleeding is a *sine qua non*—it is almost food and drink, and is about equivalent to vomiting and purging—it is refrigerant in summer, and calefacient in winter—a hobby which he rides either rough or smooth shod." The great majority of physicians, at the time I speak of, were just such theoretical bleeders.

The evil effects of blood-letting necessarily vary with the nature of the disease in which it is employed. In fever and inflammations it was employed to subdue excitement and lessen inflammatory action, and yet in many cases it is well known that it produced but a temporary effect—reaction came on and the disease for which it was employed was aggravated. The consequence of this reaction was, that another depletion was again prescribed for its removal; blood is taken to full syncope—again relief is felt—

again reaction and the local symptoms return, the practitioner continues to bleed, and is astonished at the obstinacy, course and termination of the disease, which under such circumstances generally terminated in dropsical effusion, or in convulsions, or in delirium running into coma, or in death from exhaustion or one of the foregoing states, or in a partial subsidence of the original malady, and protracted convalescence. Dr. Dunglison, an eminent old-school authority, says, "The extent to which blood-letting should be carried, in cases of violent internal inflammation, is often a matter of great difficulty with the discriminating, but of no difficulty whatever with the reckless and uninformed. In this state of blissful ignorance the latter continues to bleed, and consoles himself, when the fatal result has been hastened—perhaps mainly induced—by his agency, that the sufferer has fallen a victim to an incurable malady."

President Jackson was in the habit of relating an anecdote, which exemplified the satisfaction often felt at the exhibition of such energy on the part of the practitioner. Traveling from Virginia toward the North, he rested for the night at a tavern on the road; soon after his arrival at which, the hostess came in from a neighboring house with the females of her family, all exhibiting marks of deep distress. He was informed that they had been witnessing the parting scene of a young friend, who had died of some acute affection. "But thank God!" observed the contented matron, "every thing was done for him that was possible, for *he was bled seven and twenty times.*"

I make the assertion that the lancet has murdered thousands, and can prove it from the best authorities of old-school medicine; that it is inefficient as an agent in the cure of disease, is now readily admitted by a large majority of the profession. Eclectics *choose* to discard the *lancet*.

The THEORY that there is an excess of vitality which needs reduction in febrile and inflammatory disease, comes



measures which are calculated to impair the vital powers, have been substituted by more successful methods. It is a cardinal principle of the Eclectic system, that no medical treatment should be allowed which permanently impairs or injures the vital powers; that no such treatment is, in any case, necessary or proper, and that in the choice of remedies, we should prefer those which are safest, and calculated to act most nearly in accordance with the laws of health.

Hence, we reject, *in toto*, the most pernicious features of old-school practice. Not that we consider them entirely useless; but because they are so far inferior in their results to the measures on which we rely. The habitual internal use of certain intensely poisonous metals, as mercury, antimony, arsenic, lead, copper, etc., we consider a gross violation of the dictates of medical philosophy and experience—an egregious delusion which has brought millions to a premature grave, and which, at the present time, maintains an immense amount of human suffering among the living. This delusion has arisen from a profound ignorance of the true characters of a number of important medicines, and an indifference to the enormous evils now arising from the mercurial practice. It is not known in the Colleges, that our vegetable materia medica furnishes far better agents for all the purposes of the healing art, than these destructive metals; and that every purpose for which it is supposed that mercury is necessary, can be accomplished better without than with its agency. The fancied necessity of mercury, for the sake of its power over the liver, is well known by all Eclectic practitioners to be a gross delusion; without the use of a particle of mercury, and without its dangerous morbid consequences, they produce much more efficient cholagogue and alterative action than mercurial remedies can maintain. The medical profession are aware of the dreadful evils of a mercurial practice, and would gladly get rid of the two-edged weapon which cuts alternately the disease and the

patient, if they were informed by the colleges and authors, upon whom they rely, of the powers of other and better cholagogues.

### *THE PHYSICIAN.*

To obtain the highest degree of skill in any art, it is necessary that it should be studied with care, and that the entire time should be devoted to it. Hence, in the practice of medicine, the most intricate of all arts, it becomes necessary that those who pursue it, should have a thorough medical training, in order to become skillful workers. Not only does it require reading, but, as in all other arts, it requires that experimental knowledge which is only obtained in well-conducted colleges and hospitals. Time is necessary for this; the printer who sets this type has served his apprenticeship of three or four years before he is entrusted with the entire management of his work; the foreman who places the form on the press, and watches the action of the machinery as the sheets go through one by one, has served the same length of time; it is the case with the man that builds your house, that makes your coat or your pants, or that follows any of the common avocations of life. How much more necessary is it, that he who takes charge of the intricate mechanism of the body, and undertakes to modify its action during disease, and prevent its dissolution, should have served a sufficient length of time to become thoroughly conversant with the entire art of healing?

Not only is it necessary that he should have spent years in the study of his profession, but he must also have a love for it, in order to prove successful. "An instinctive impulse," says Hufeland, "to relieve a sufferer, was the origin of the healing art. This pure and noble sentiment must always prevail, to make the practice of medicine answer its ideal, and render it a blessing to both physician and patient. To live for others and not for himself, is a



physician's vocation. He must be ever ready to sacrifice his repose, advantages and comforts, to the end of saving the life and health of his fellow men."

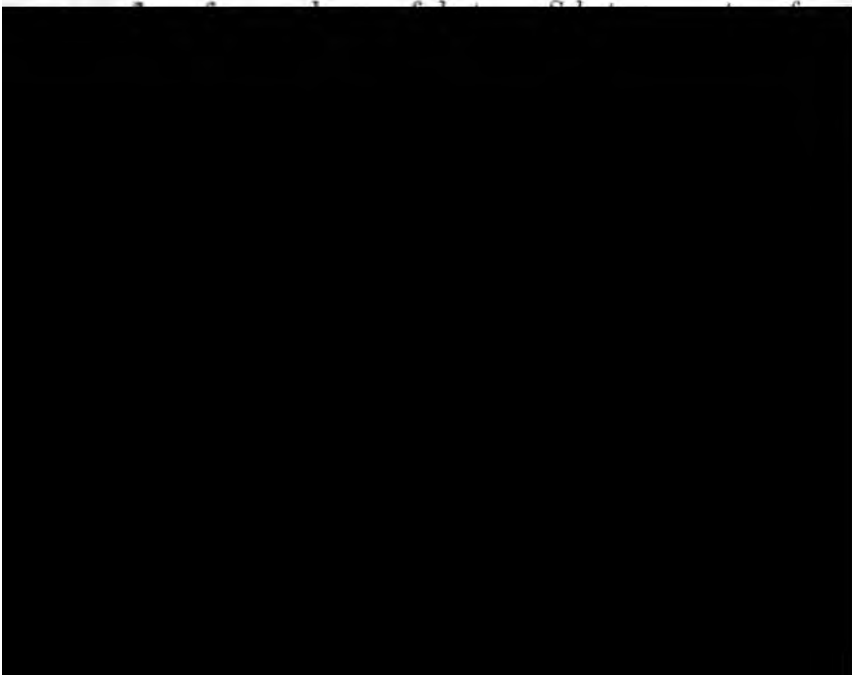
As he is brought constantly in contact with the family in the most intimate relations of life, and exercises a marked influence either for good or evil, it is essential that he should be a moral man, and one whose influence and example will be constantly on the side of truth and virtue. Many times the happiness of single individuals, and whole families, lies in his discretion, and he is frequently placed in positions in which a word of advice, coming, as is known, from a pure and truthful heart, will change the course of an individual's life, and prevent much misery and suffering.

In the choice of a physician, therefore, always select one who has pursued the study of medicine diligently, and for such length of time as may reasonably be supposed to give the necessary knowledge of the healing art. Give preference to those, other things being equal, who have completed a regular course of instruction in a Medical College, as they will almost invariably be found more conversant with disease, and understand better its appropriate treatment. It will be observed that certain physicians take a very great interest in their profession, and in the welfare of the sick entrusted to their charge. They do not consider any sacrifice of time or comfort too great to be made, if it conduces to the recovery of their patients—are ever ready to render their services, to rich and poor alike, and seem to derive their greatest recompense from the relief of suffering and arrest of disease. From such, choose your medical adviser. If a physician is a tippler, a libertine, a profane swearer, or is the subject of any vice that you would object to in your family, do not employ him, if it is in your power to do otherwise.

The physician's influence is very great, either for good or evil, and his example is especially marked by the young. The truly good physician will, therefore, prove a moral

those who have practiced medicine, can appreciate the severity of the labor, both physical and mental, and surely it deserves to be promptly and fully requited. Pay your physician immediately on the cure of the patient, and you will feel better, your bill will not seem so large, and you will interest the doctor in your welfare, so that you will receive increased attention and skill should you need him again. There is nothing that so quickens and gives increased ability to the laborer, as prompt and certain payment.

Never change physicians on trivial grounds, as much injury to yourself and family may result from it. No one can know the constitution and peculiarities of a person as well as the physician who has known him long, and attended him in previous attacks of disease. People differ very markedly from each other, and in no respect do we notice this difference more than in sickness, and in the action of medicine upon the system. This is a strong argument not only against change of physicians, but also for retaining the same one in a neighborhood as long as may be possible. It is possibly beneficial to have a change of preachers, of lawyers, of school teachers; but no profit



ready to give credence to almost any statement, and, quite frequently, the more marvelous it is, the more greedy they are for it. As before remarked, people know less of themselves than they know of any thing else, and the general impression is, that the family physician, though a worthy man, runs in the old ancestral grooves, and can not know much that is new ; in fact, is a very slow, mulish, and stupid individual. Hence they are ready to give welcome to any statement which seems plausible on its face, if it promises to meet their wishes.

It is an every-day occurrence in every neighborhood for persons to consult entire strangers who have come to their knowledge by flashy advertisements, and entrust their health and lives to their hands, when on the same authority they would not have purchased a new variety of corn or wheat, or a pint of turnip-seed. This credulity is frequently turned to account by persons who have no knowledge of medicine, except a few old receipts, and who sometimes make large fortunes by their impositions.

A very noted character in this line, in New York City, was supposed to have realized \$500 per day from letters received from his dupes, until his career was arrested by the police. We have had two examples of the same kind in this city, and the papers of our country are still flooded with their advertisements. Many of them profess to devote their whole time for the good of humanity, and promise to send such information as will cure the most serious diseases, without fee or reward. Many write to them, as it costs nothing, and get their receipts, with high-flown panegyrics on the advantages that have been or may be gained by the medicine. But on application at the drug-stores they find no such medicines, and finally send to the advertiser, who charges them round prices for worthless and sometimes injurious stuff.

The patent medicine and nostrum manufacturers and venders fatten off of the people in the same way. They advertise to cure all curable and many incurable diseases,

and furnish certificates signed by ministers and others that they can accomplish what they profess. The result is that they sell millions of dollars of worthless trash yearly, that in the end does more harm than good. Immense fortunes have been realized in this way, and others are being made constantly. There is no cessation to the demand, though the old nostrums are constantly being replaced by new. No person is now so foolish as to swallow a dollar's worth of Townsend's or Guizot's, or Bull's Sarsaparilla a week. But they will take an equal quantity of Plantation or some other kind of bitters, or some other person's alterative. There seems to be a constant desire for medicine, whenever a person has the slightest ill feeling or ache, and there are few who would not put more reliance in the most absurd nostrum than they would in the curative powers of nature.

I do not say that all patent medicines are humbugs, for I know that some of them are prepared with care, and can be used with advantage in some cases. But I believe that it is better in all cases for the person to take such remedies as are known to him, or to put himself under the care of a physician. It is an error that combinations of many different remedies are better than a single one, and the best physicians will tell you that a single remedy, if properly selected, is much better than a combination. Patent medicines are compounded of common, cheap, and often inferior drugs, you do not know what they are, and they come to your notice in a suspicious manner, therefore it is wise to purchase from a reliable dealer such individual medicines as are desirable for domestic use.

"The history of quackery, if it were written on a scale that should include the entire number of these frauds, which may be generally classed under the head of humbugs, would be the history of all ages and climes. Neither the benefactors nor the enemies of mankind would escape mention. In the success that has in every century attended the rascally enterprises of pretenders to the art of



medicine is found a touching evidence of the sorrow, credulity and ignorance of the generations that have passed, or are passing, to the silent home where the pain and joy, the simplicity and cunning, of this world are alike of insignificance. The hope that, to the last, lurks in the breast of the veriest wretch under heaven's canopy, whether his trials come from broken health or an empty pocket, or wronged affection, speaks aloud in saddest tones, as one thinks of the multitudes who, worn with bodily malady and spiritual dejection, ignorant of the source of their sufferings, but thirsting for relief from them, have gone from charlatan to charlatan, giving hoarded money in exchange for charms, cramp-rings, warming-stones, elixirs, trochees, etc., warranted to cure every ill that flesh is heir to.

"The scene from another point of view is more droll, but scarcely less mournful. Look away from the throng of miserable objects who press around the empiric's stage; wipe out for a brief while the memory of their woes, and regard the style and arts of the practitioner who, with a trunk full of nostrums, bids disease to vanish, and death to retire from the scenes of his triumph. There he stands—a lean fantastic man, voluble of tongue, empty-headed, full of loud words and menaces, prating about kings and princes who have taken him by the hand and kissed him in gratitude for his benefits showered upon them—dauntless, greedy, and so stupid in falsehood that his crazy-tinted brain half believes the lies that flow from his glib tongue. Are there no such men amongst us now—not standing on carts at the street corners, and selling their wares to a rabble—but having their seats in honored places, and vending their prescriptions to crowds of wealthy clients?"

## PART I.

### ANATOMY AND PHYSIOLOGY.

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A knowledge of the phenomena of life, or Physiology, should be possessed by every one; not only that we may know how to preserve our health, but also as a means of moral and intellectual improvement. Yet we find comparatively few outside of the medical profession who can describe or account for the most common functions of their bodies. It seems singular that men and women of intelligence should be content to witness the varied workings of such a complex and intricate piece of mechanism as their own bodies, without the desire of inquiring into and knowing something about the different processes by which that *life*, of which they are so tenacious, and which they are so loth to give up, is continued from day to day.

People are generally eager to acquire knowledge, especially if the pursuit is entertaining and satisfies curiosity. Place a man in one of our *machine shops*: he is immediately interested. He watches the action of the large engine in the corner, which keeps the almost endless shafting, with the varied and complex machinery, in motion; he watches with interest the motion of the piston in the large cylinder; sees the automatic machinery by which the steam-valves of the cylinder are opened and shut; in fact, in a short time, if he has ordinary inquisitiveness, he will master a knowledge of its workings. Let him continue his observation for a few weeks, and he will have obtained a good knowledge of almost all the processes of the manufacture of a steam engine. The same man has observed



the workings of his own system for years, and yet will not be able to tell you what purposes are subserved by the continued and never-ceasing action of the lungs, by that wondrous and continuously-acting *hydraulic* mechanism, the heart, or by the daily introduction of food into his stomach. In the one case his curiosity prompts him to investigation; while in the other, though constantly placed in a position to observe and investigate, he yet deliberately shuts his eyes, and passes through life knowing less of himself than of any thing else. Why is this the case? If I were to account for it, I should say, that popular opinion has long since decided that this knowledge is private property, belonging exclusively to physicians, and in which the public have no interest, as they pay a class of men to investigate such matters, and give to them the conclusions drawn from such investigation, in the shape of *medicine*, whenever called upon.

*Should this state of things continue?* I believe that a knowledge of Physiology, Anatomy, and Hygiene, is just as important as a knowledge of arithmetic, geography, history, etc., and that it should form a part of common-school education. The time is coming, and even now some progress is made toward it, when works on these subjects, written in plain language, will be placed in the hands of every school-child. The objection to this is, that these subjects are *dry*, and can not interest the young, or even any one, except the physician. This is not the case. There is nothing as interesting as the study of the human body, merely as a piece of complicated but masterly workmanship; and how much is this interest increased when we consider it as the dwelling of an intelligent soul, which, but for this body, would be cut off from all intercourse with things of earth.

Man is composed of six varieties of material, which, variously combined, form the most complex structures of the body, and are adapted to the various functions of life. These are bone, cartilage, fibrous tissue, muscular tissue,

nerve tissue, and adipose tissue or fat. These are continually wearing out and being replaced, so that the man of to-day has in all probability no single atom of matter that was in his body twenty years ago; in fact, our best observers conclude that man is renewed about every four months. This renewal is a necessity of his existence, as these various materials possess but a limited vitality, in other words, retain their form for but a limited period, when, unless the body dies or loses its properties it must be renewed. This renewal takes place, as will hereafter be described, by the continued digestion and appropriation of the food we daily consume.

### BONE.

The bones form the frame-work of the body, and give shape and support to its various parts, and furnish a mechanism, which, when acted upon by the muscles, give locomotion and the various actions necessary to our support and well-being. The bones of the body are 246 in number, divided into *long, flat, and irregular*, which, when placed together in their natural order form a *skeleton*. The skeleton (see Fig. 1,) is divided by anatomists into *head, trunk, and extremities*, the head being divided into two parts, cranium and face, the extremities into upper and lower.

The cranium consists of 8 flat bones joined together, which form an oval cavity for the brain. The bones of the face are 14 in number, mostly small, and form the walls of the orbits, nose, and mouth; in addition, the 32 teeth are enumerated as bones, and there are 3 small bones in each ear.

The trunk is composed, first, of a column of irregular bones called the spine or back-bone, 26 in number, the 24 superior being called true vertebræ, and the last two false vertebræ. The true vertebræ are divided into three varieties, according to their situation: 7 cervical, in the neck; 12 dorsal, that give attachment to the ribs; and 5

FIG. 1.



## THE SKELETON.

It consists of 246 bones ; 60 in the head ; 52 in the trunk ; 64 in the upper extremities ; 62 in the lower extremities, and 8 sesamoid bones.



lumbar, in the loins. Arising from the dorsal vertebræ are 12 bones on each side called ribs, which pass downward and forward to be attached by cartilages to one bone in front—the sternum or breastbone. At the upper part of the neck below the lower jaw is one bone, the hyoid, forming half an arch, supporting the air-tube. In all, the trunk has 51 bones; 26 of which form a column which supports the head and upper extremities, and 25 form a bony cavity to contain the lungs and heart.

The upper extremities have 32 bones each, divided into a shoulder, 2 bones; arm, 1; forearm, 2; wrist, 8; and hand, 19. The lower extremities have 31 bones each, divided into hip, 1; thigh, 1; leg, 3; and ankle and foot, 26. In addition to these, there are in the body eight small bones, called *sesamoid*.

Long bones are found in the upper and lower limbs, and consist of a shaft of dense hard bone, and extremities of spongy bone; the shaft being smaller in circumference than the extremities, and containing a central cavity. The ends of long bones are covered with articular cartilage, which gives them a smooth, glistening surface, preventing friction where they play one upon another. A long bone is usually broken in its shaft, not because it is weaker there, but because it is not so well supported by fibrous tissue. Flat bones are found enclosing cavities, and are composed of an outer covering of dense bone, and an internal spongy portion. Irregular bones are found where great strength is required with but little motion, and have an external investment of compact bone, while their center is spongy.

All bones have an external investment of fibrous tissue, forming a membrane called the *periosteum*, which is, to some extent, the source of growth and repair, as late investigations have proven that a bone may be reproduced if the periosteum is left entire. This membrane is liable to inflammation, the pain being very severe, and in some cases, as in syphilis, an irritation is produced

which causes an increased deposit of bone, and the formation of an excrescence termed a node. Bones receive a considerable supply of blood, though the vessels are all small; hence there is never much bleeding. Their nervous supply is limited; so that it is a very great mistake to suppose that cutting a bone will give rise to much pain.

### **ARTICULATIONS—JOINTS.**

When two bones come together, there is said to be an *articulation*; and these are divided into two kinds—immovable and movable. In an immovable joint, the bones come directly together, and, in some cases, are adherent, as in the bones of the scull. The movable may be divided into two kinds, in the one of which the bones are united by an elastic tissue, passing from end to end; in the other the bones move one upon another, the surfaces coming in contact being free. In the last variety, the free extremities or surfaces of the bones are covered with cartilage, and this again by a delicate, smooth membrane (synovial membrane), extending from one bone to the other, which secretes the synovia or joint-water, for the lubrication of the opposing surfaces. The bones are tied together by fibrous bands called ligaments, which pass from one to the other in such situations as to permit of the necessary degree of movement.

### **CARTILAGE.**

Cartilage (popularly called gristle), is found where a considerable degree of strength is required, and it is necessary that a part shall maintain a permanent form, and still possess a certain degree of elasticity. We thus find it situated between the bones of the spinal column, and so arranged as to form a cushion for them, and thus prevent those numerous jars to the body which would prove so annoying and injurious. Again, it forms the connecting medium between bones, and permits a limited motion, as

in the cartilages of the ribs; and lastly, it forms the frame-work of an organ, as in the *larynx*, or organ of voice—no other material possessing the necessary elasticity with permanence of form. I might have stated, that all the bones are first represented by cartilage, the bony material being deposited in it, and finally in the adult taking its place.

### FIBROUS TISSUE.

Fibrous tissue is that dense, white, and tenacious material that forms so considerable a part of the body. It is placed wherever strength is required, as at the joints uniting the bones, forming the investment or attachment of muscles—tendons. As a connecting medium, uniting together all parts of the body, and in each organ forming, so to speak, the basket in which other parts are placed, or threads with which they are bound together. It is a component of almost every organ and tissue, furnishing strength and a bond of union. A variety termed *yellow* fibrous tissue, possesses elasticity, and is found in the skin, forming some ligaments, and in the blood-vessels.

### MUSCULAR TISSUE.

Muscles are divided into two kinds—the muscles of animal life, or voluntary, and the muscles of organic life, or involuntary. The first forms the large, reddish masses surrounding and situate on the bones; the second is white, and is found within the body as a component of some of the viscera, especially forming one of the coats of the entire alimentary canal, and of the bladder and womb and probably of the arteries. If a muscle, or the *lean* of meat, be examined, it will be found to be composed of fibers, which pass like threads from end to end, and if a magnifying glass be used, these will be seen to be bundles of still smaller fibers—the ultimate fibril being not more than  $\frac{1}{100}$  part of an inch in diameter. It is a compound



This will be spoken of more fully when describing the nervous system.

#### ***ADIPOSE TISSUE—FAT.***

Varying in quantity, we find adeps, or fat, in all parts of the body. In some persons it fills all inequalities, and forms a more or less thick layer under the skin, over the principal parts of the body. The fat is contained in an envelop of fibrous tissue, and this again in a net-work of the same; and the same fibrous arrangement that in one simply connects the skin to parts beneath, or one organ to another, will in another be so loaded with fat as to be an inch or more in thickness. Fat is combustible, and furnishes the larger portion of animal heat, so that these deposits of fat may be considered the storehouses of fuel for the body. In diseases in which the appetite and digestion is much impaired, these deposits are drawn upon; hence the great loss of substance.

#### ***COMPOSITE STRUCTURES.***

The tissues above named are united in varying proportions to form complex structures or organs, having a specific function or action. Thus the skin, which forms the exterior covering, has, first, a dessicated, scaly investment, and is next composed of white fibrous tissue, yellow and red elastic tissues, blood-vessels, nerves, sweat glands, sebaceous glands, etc. The internal lining of the body, or mucous membrane, is similar to it; while, if we examine some of the larger organs, as the liver, we will find the same tissues arranged in a still different manner.

#### ***ORIGIN OF THE HUMAN BEING.***

If we examine the ultimate elements of the body, we will find that it is composed of *oxygen*, *hydrogen*, *carbon*, and *nitrogen*—four gases—with the addition of a variable



amount of lime, potash, phosphorus, sulphur, etc. The principal part of the tissues is formed of varying proportions of the four elements first named, which is called a protein compound. Such a combination we find in eggs, milk, flesh, bread, etc., which furnish this material to the body. The first three of these, oxygen, hydrogen and carbon, are the elements of fat, starch, sugar, alcohol, etc., and are the heat producers, or fuel. These elements, separately or in varying combination, form the principal part of the globe we inhabit—water being formed of a union of two volumes of hydrogen and one of oxygen, while the air we breathe is formed of an admixture of four parts of nitrogen, and one of oxygen. These materials are very plastic, and are molded into many varying forms by the *vital* force, as we shall hereafter see.

Our food contains all the elements of our bodies, in such a state that the process of digestion fits it for appropriation by the various tissues. Some single articles of food contain all that is requisite, as flesh, milk, eggs, bread, etc., whilst others contain but a part, and though they will support life for a while, at last the body yields from a want of some material they do not contain.

### DEVELOPMENT OF THE BODY.

Having thus glanced at the material of which our bodies consist, we now wish to learn the processes by which a living being is developed from them. With man, as with the plant, there must first be a seed or germ. This is furnished by the female parent, and is called the human egg. It is very minute, but perfect in all its parts, and resembles very closely the eggs of oviparous animals. For the development of this it is necessary that a principle of vitality shall be imparted to it by the male parent, which is also the case with the eggs of oviparous animals, and also with many plants. (For further description see Vol. 2.) In the egg thus vitalized a process of growth commences,

its elements being formed into minute cells, which arrange themselves to form a membrane, and this again separates into different parts, for the production of bone, nervous system, heart, arteries and veins, alimentary canal, skin, etc. The egg contains all the elements of growth within itself, and in the human being, when these are exhausted it has formed an attachment to the mother, and derives a further supply of nutritious material from her blood. We may take the egg of the common fowl as an example of this process. If vivified by the male bird, and placed in a situation where it will receive a continuous supply of heat, we will find in a short time its character is entirely changed. A germinal membrane is formed, the heart and blood-vessels are developed, an intestinal canal, lungs, bones, nervous system, and lastly, skin, feathers, etc., so that in the course of twenty-one days a chick, perfect in all its parts, has been developed from the contents of the egg. A casual observer would have seen nothing in it resembling bone, or feathers, or even flesh; but they were all there in a fluid form. Neither would he suppose that in our food were the elements of blood, bone, nerve-tissue, muscle, and even the hair and nails.

In the human egg, the process of development goes on in the material contained within it up to about the fifth week, when the heart and vessels having been developed, it forms an attachment to the mother, and henceforth receives its supply of material from her blood. It contains all the elements of the body, in such form as to be readily appropriated by the child, which, when born, is complete in all its parts.

### FOOD.

Food may be described as anything that can be appropriated by the body for the growth and repair of its various parts, or for the production of heat. It may be properly divided into two kinds, one *nutritive* or *plastic* which contains nitrogen, and can be converted into blood, and

nitrogen, and is simply an inorganic material. *These remarks*—That an easier source of foods than the existing to their destination, is derived from their origin: for all consist either of animal or vegetable substances. No substance can offer nutriment, even though it contain all the elements of organic bodies, unless it have all the natural peculiarities of organic composition, and contain incorporated with its other elements, some of those derived from the mineral kingdom, which, as *incidental elements*, are found in the organized tissues: such as sulphur, iron, lime, magnesia, etc.

"Man is supported as well by food constituted wholly of animal substances, as by that which is formed entirely of vegetable matters; and the structure of his teeth, as well as experience, seems to point out that he is destined for a mixed kind of aliment. In the case of carnivorous animals, the food upon which they exist, consisting as it does of the flesh and blood of other animals, necessarily contains all the elements of which the human food is composed, but contains them in different forms. Therefore, in the preparation of this food, it is necessary to convert it into the same forms as those in which it is found in the body, than that it is necessary to convert it into the blood in a similar manner. But in the case of herbivorous animals, the food consists entirely upon vegetable substances, and the process of assimilation would be greater than in the case of carnivorous animals, with the ordinary articles of food. The human food, in comparison with the food of herbivorous animals, which constitute the food of the human race, is nearly all vegetable. The food of the human race is in corn and other vegetable substances, and the process of assimilation is identical in the human and the herbivorous animal. The named vegetable substances are the food of the human race."



which is obtained especially from peas, beans, and other seeds of leguminous plants, and from the potato, is identical with the casein of milk. All these vegetable substances are, equally with the corresponding animal principles, and in the same manner, capable of conversion into blood and tissues."

It is difficult to determine the amount of food required by a man in ordinary pursuits, as it varies greatly as regards the kind and quality, and, to a considerable extent, the habits of the individual. It is probable that a healthy man, taking exercise in the open air, will require something near the following amount:

|                |   |   |   |                               |
|----------------|---|---|---|-------------------------------|
| Meat,          | - | - | - | 16 ounces.                    |
| Bread,         | - | - | - | 19 "                          |
| Butter or fat, | - | - | - | 3½ "                          |
| Water,         | - | - | - | 23 fluid ounces, or 3½ pints. |

The following table, compiled from Carpenter's Physiology, shows the relative value of different articles of food, human milk being the standard of comparison, and rated 100.

## VEGETABLE.

|           |   |   |         |     |              |   |   |   |     |
|-----------|---|---|---------|-----|--------------|---|---|---|-----|
| Rice,     | - | - | -       | 81  | Oats,        | - | - | - | 138 |
| Potatoes, | - | - | -       | 84  | White bread, | - | - | - | 142 |
| Turnips,  | - | - | -       | 106 | Brown bread, | - | - | - | 166 |
| Rye,      | - | - | -       | 106 | Peas,        | - | - | - | 239 |
| Corn,     | - | - | 100—125 |     | Lentils,     | - | - | - | 276 |
| Barley,   | - | - | -       | 125 | Beans,       | - | - | - | 320 |

## ANIMAL.

|                   |   |         |                 |            |
|-------------------|---|---------|-----------------|------------|
| Human milk,       | - | 100     | Fish, from      | 776 to 954 |
| Cow's milk,       | - | 237     | Pigeon, boiled, | - 827      |
| Oyster,           | - | 305     | Lamb,           | - 833      |
| Eggs,             | - | 305     | Mutton, boiled, | - 852      |
| Cheese,           | - | 331—347 | Veal,           | " - 911    |
| Pork ham, boiled, |   | 307     | Beef,           | " - 931    |

Such a table must not be supposed to indicate the fitness of different articles for food, though correct as

regards the proportionate amount of material capable of forming tissue. For an article that contains a small portion, may be so much easier of digestion, that it would be preferable. Some of those articles of food, also, which contain a small proportion of tissue-making material, are rich in material for the production of heat.

Carpenter remarks, "that the most economical diet will be that in which there is the most perfect apportionment of each class of constituents to the wants of the system; and these will vary with the amount of muscular exertion put forth, and the lowering of the external temperature. Thus, for a man of ordinary habits, and living under a medium temperature, a diet composed of animal flesh alone is the least economical that can be conceived; for, since the greatest demand for food in his system is created by the necessity for a supply of carbon and hydrogen to support his respiration, this want may be most advantageously fulfilled by the employment of a certain quantity of non-azotized food, in which these ingredients predominate. Thus it has been calculated, that, since fifteen pounds of flesh contain no more carbon than four pounds of starch, a savage with one carcass and an equal weight of starch, could support life for the same length of time, during which another, restricted to animal food, would require five such carcasses, in order to procure the carbon necessary for respiration. Hence we see the immense advantage, as to economy of food, which a fixed agricultural population possesses over those wandering tribes of hunters, which still people a large part of the old and new continents."

### HUNGER.

In every living organism there is an incessant and reciprocal activity of *waste* and *repair*. The living fabric in the very actions which constitute its life, is momentarily yielding up its particles to destruction, like the coal which is burned in the furnace; so much coal to so much heat.



so much waste of tissue to so much vital activity. You can not wink your eye, move your finger, or think a thought, but some minute particle of your substance must be sacrificed in doing so. Unless the coal which is burning be from time to time replaced, the fire soon smoulders and finally goes out; unless the substance of your body, which is wasting, be from time to time furnished with fresh food, life flickers, and at length becomes extinct. Hunger is the instinct which teaches us to replenish the empty furnace. But although the want of food, necessary to repair the waste of life, is the primary cause of hunger, it does not, as is often erroneously stated, in itself constitute hunger. The absence of necessary food causes the sensation, but it is not itself the sensation. Food may be absent without any sensation, such as we express by the word hunger, being felt; as in the case of insane people, who frequently subject themselves to prolonged abstinence from food, without any hungry cravings; and, in a lesser degree, it is familiar to us all how any violent emotion of grief or joy will completely destroy, not only the sense of hunger, but our possibility of even swallowing the food which an hour before was cravingly desired. Further, it is known that the feeling of hunger may be allayed by opium, tobacco, or even by inorganic substances introduced into the stomach, although none of these can supply the deficiency of food. Want of food is, therefore, the primary, but not the proximate, cause of hunger. I am using the word hunger in its proper sense here, as indicating that specific sensation which impels us to eat; when the subject has been more fully unfolded, the reader will see how far this popular sense of the word is applicable to all the phenomena.

We can now understand why hunger should recur periodically, and with a frequency in proportion to the demands of nutrition. Young animals demand food more frequently than the adult; birds and mammalia more frequently than reptiles and fishes. A lethargic boa-con-

striator will only feed about once a month; a lively rabbit twenty times a day. Temperature has also its influence on the frequency of the recurrence: cold excites the appetite of warm-blooded animals, but diminishes that of the cold-blooded, the majority of which cease to take any food at the temperature of freezing. Those warm-blooded animals which present the curious phenomenon of "winter sleep," resemble the cold-blooded animals in this respect; during hybernation they need no food, because almost all the vital actions are suspended. It is found that, at this temperature of freezing, even digestion is suspended. Hunter fed lizards at the commencement of winter, and from time to time opened them, without perceiving any indications of digestion having gone on; and when spring returned, those lizards which were still living, vomited the food which they had retained undigested in their stomachs during the whole winter.\*

Beside the usual condition of recurring appetite, there are some unusual conditions, depending on peculiarities in the individual, or on certain states of the organism. Thus, during convalescence after some maladies, especially fevers, the appetite is almost incessant; and Admiral Byron relates that, after suffering from a month's starvation during a shipwreck, he and his companion, when on shore, were not content with gorging themselves while at table, but filled their pockets, that they might eat during the intervals of meals. In certain diseases there is a craving for food which no supplies allay; but of this we need not speak here.

The animal body is often compared with a steam-engine, of which the *food* is the *fuel* in the furnace, furnishing the motor power. As an illustration, this may be acceptable enough, but, like many other illustrations, it is often accepted as if it were a real analogy, a true expression of the facts. As an analogy, its failure is con-

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\* Hunter—Observations on Certain Parts of Animal Economy.



spicuous. No engine burns its *own substance* as fuel: its motor power is all derived from the coke which is burning in the furnace, and is in direct constant proportion to the amount of coke consumed; when the coke is exhausted, the engine stops. But every organism consumes its own body: it does not burn food, but tissue. The fervid wheels of life were made out of food, and in their action motor power is evolved. The difference between the organism and the mechanism is this: the production of heat in the organism is not the *cause* of its activity, but the *result* of it; whereas, in the mechanism, the activity originates in and is sustained by the heat. Remove the coals which generate the steam, and you immediately arrest the action of the mechanism; but long after all the food has disappeared, and become transformed into the solids and liquids of the living fabric, the organism continues to manifest all the powers which it manifested before. There is, of course, a limit to this continuance, inasmuch as vital activity is dependent on the destruction of tissue. The man who takes no food, lives like a spendthrift on his capital, and can not survive his capital. He is observed to get thin, pale, and feeble, because he is spending without replenishing his coffers; he is gradually *impoverishing* himself because life is waste; for life moves along the stepping-stones of change, and change is death.

#### ORGANS OF DIGESTION.

The process by which food is prepared for the uses of the body, is a most interesting and important study, though much simpler than would be supposed. Our food contains all the elements of the tissues, but in such form that they can not appropriate it. Therefore the necessity of a series of organs for its minute comminution and change from a solid or semi-solid form to a fluid.

The mouth, the first part of this apparatus, is furnished with teeth, firmly inserted in the upper and lower jaw,

the latter being moved by strong muscles; the arrangement of the muscles of the lips, cheeks and tongue being such as to keep the food between the teeth during mastication. As the principal articles of food are more easily comminuted by the addition of fluid, certain glandular organs are associated with the mouth to furnish it. These are on each side, one between the lower jaw and the ear, one beneath the angle of this bone, and one beneath the tongue.

Food taken into the mouth is carried under the teeth, and the process of trituration begun; this excites the salivary glands, and saliva is poured out in quantity sufficient to form the food into a semi-fluid mass. When thus divided, it is carried on to the tongue, which being drawn backward, carries the food into the throat, from whence it passes through the œsophagus, or gullet, to the stomach. This process is usually regarded as a very unimportant one, and the demands of the system for a proper preparation of the food entirely overlooked. As a nation, we are guilty of bolting our food without mastication, and of wasting the saliva by chewing and smoking tobacco; hence we are a nation of dyspeptics. Many a man and woman suffers from indigestion, and all its consequences—broken down health—who may attribute all their sufferings to not taking sufficient time to masticate their food; and others suffer the same consequences by wasting the saliva in the use of tobacco. Numerous cases in my experience have been relieved by such change of habits as would permit the normal performance of the functions of mastication and insalivation.

The saliva consists principally of water, holding in solution a small amount of alkaline matter, and a peculiar principle termed *ptyaline*, which commences a process of change in the food, changing its starch into sugar. The amount of saliva usually secreted in twenty-four hours, is from ten to twenty ounces.

**THE STOMACH.**—The stomach is a large, hollow sac, situated immediately below the septum dividing the chest

FIG. 2.

**DIGESTIVE APPARATUS.**

1, Mouth. 2, Œsophagus. 3, Stomach. 4, Large Intestine. 5, Small Intestine. 6, Rectum. 7, Gall Bladder and situation of the Liver



from the abdomen, its largest portion being in the left side and extending across the body to the right. Its walls are about an eighth of an inch in thickness, composed of three layers, a serous, muscular and mucous, the last containing numerous minute glands which secrete the gastric fluid. Its muscular coat is strong, and during the process of digestion keeps the mass of food in constant motion.

Food taken into the stomach during a meal, usually contains a large amount of fluid, which must be removed by the veins before digestion commences. Hence, in some cases, indigestion is remedied by abstaining from fluids during a meal, so that the process of digestion will commence immediately. When the fluids are thus absorbed, the gastric juice is poured out, and comes in contact with the surface of the mass, which being kept in constant motion by the muscular coat of the stomach, is rapidly dissolved. The liquid thus formed, called chyme, is a milky fluid, of an acid reaction, and is passed through the contracted lower extremity of the stomach into the first part of the small intestine. In addition to the water, a small portion of the albumen of the food is absorbed by the veins of the stomach, but the largest proportion has to undergo still further change to fit it for the uses of the economy.

From two to six hours is required for the digestion of a meal in the stomach, depending partly on the character of the food, and partly on the condition of the stomach. Thus we find cases in which the process of digestion is so slow that a considerable part of the food putrefies, and is thus not only useless, but in many cases absolutely injurious. When a person is very much exhausted, food can not be digested rapidly; hence, it will almost invariably prove injurious, unless taken in small quantities. Food should be taken sparingly when a person is feeling badly, or when they have symptoms of approaching disease. For the same reasons, I have known cases in which food,

taken into the stomach before an attack of sickness, remained undigested for days, being a source of continued irritation.

An individual by the name of Alexis St. Martin, from a wound, had an opening into the stomach from the surface, permitting an examination of the process of digestion. Dr. Beaumont, who performed numerous experiments with him, gave the following as the time required for the digestion of different kinds of food :

| KIND OF FOOD.             | HOURS. | MINUTES. |
|---------------------------|--------|----------|
| Pigs' feet, - - - -       | 1      | 00       |
| Tripe, - - - -            | 1      | 00       |
| Trout (broiled), - - -    | 1      | 30       |
| Venison steak, - - -      | 1      | 35       |
| Milk, - - - -             | 2      | 00       |
| Roasted turkey, - - -     | 2      | 30       |
| Roasted beef, - - -       | 3      | 00       |
| Roasted mutton, - - -     | 3      | 15       |
| Veal (broiled), - - -     | 4      | 00       |
| Salt beef (boiled), - - - | 4      | 15       |
| Roasted pork, - - -       | 5      | 15       |

The gastric juice which accomplishes the transformation of food into chyme is secreted by numerous minute glands, situated in the mucous membrane of the stomach. It is supposed to amount, in the well developed and healthy man, to between sixty and eighty ounces, being poured out only when food or other material is taken into the stomach. Dr. Beaumont found that the introduction of any material, as the bulb of a thermometer, would excite the secretion, so that he was enabled to collect as much as an ounce at a time. He describes it as a "clear, transparent fluid, inodorous, a little saltish, and very perceptibly acid. Its taste is similar to that of mucilaginous water, slightly acidulated with muriatic acid. It is readily diffusible in water, wine, or spirits; slightly effervesces with alkalis, and is an effectual solvent of alimentary material. It pos-



fistulous openings, completely separating the stomach, duodenum, and a short fragment of the jejunum, from the intestine below, the upper portion of the jejunum being torn in two. Not the least communication existed between the two portions, and the contents of the stomach and duodenum, with the gastric, pancreatic and biliary secretions were discharged without admixture with the secretions from the intestine below.

When admitted to the hospital the first effects of the injury had passed off, but the emaciation was remarkable, so that, though considerable improvement had taken place, she only weighed 68 pounds 2 ounces eight weeks after admission. She devoured incredible quantities of food, and for a length of time, while still eating, the food first taken would make its appearance in the superior fistula, and on being questioned, she would state that, though feeling better, her strong desire for food was not satisfied. In fact, though her stomach was filled, she felt an irresistible desire for aliments. The physiology of hunger was conclusively shown in this case to be composed of two factors—the one, the emptiness of the stomach and first passages, which was temporarily relived by eating; the other, more permanent, caused by the excess of waste over supply.

The main object, at first, was to arrest the marasmus, by furnishing to the system a supply of nutritious material, it being evident that no matter how much was taken into the stomach the exhaustion still increased. It was attempted to lead the contents of the upper portion into the lower by artificial means, but this failing, after repeated trials, another course of feeding was adopted, with marked success. "At first protein substances were injected into the lower opening, alternately with amylaceous, and subsequently eggs and meats were stuffed in by the finger. The result was most surprising, and admitted no comparison with the previously adopted feeding through the mouth. Although there was not commensurate increase of the



left side to the lower part of abdomen, then to the median line where it becomes the rectum, terminating at the anus. It receives the remains of the food and the intestinal excretions, which are formed into feces, and discharged at regular periods.

**THE LIVER.**—The liver is the largest organ in the body, measuring about twelve inches from right to left, from four to five from before backwards, and weighing about four pounds. It is situate in the upper part of the abdomen immediately behind the lower ribs, and in contact with the diaphragm. The blood from which its secretion is formed is venous, and derived from the veins of the stomach and entire intestinal canal, which, uniting, form one large vein, the portal vein. This, passing into the liver, divides and sub-divides into minute or capillary vessels, which pass to the lobules of the liver, which remove the elements of bile. The blood is then received into the hepatic veins, which convey it to the large ascending vein—*vena cava*. Unlike all other secreting organs, the secretion of the liver is formed from venous blood, and the arrangement of the vessels is such that should this organ become torpid, the flow of blood from the intestinal canal will be obstructed. It is from this reason that torpor of the liver produces *piles*, which are simply enlargements of the inferior intestinal veins, and sometimes occasions diarrhœa, though more frequently constipation.

The bile is a yellowish or greenish, viscid fluid, with an intensely bitter taste, and peculiar nauseous smell. Its secretion is supposed to be constant, the *gall-bladder* situated on the under surface of the liver, receiving the bile and pouring it into the intestine when it is required. The purposes served by the secretion of bile are of two kinds, the removal of excrementitious material from the blood, and to aid in the process of digestion. The first purpose is quite important, as when the elements of bile are not properly removed from the blood, disease always occurs, as in jaundice. The second has not as yet been fully investigated,

gists, proved that in many cases the fibrine was not increased in these diseases, but the increase was dependent upon the abstraction of blood, and that each successive bleeding, instead of lessening, but increased the quantity. It was further shown that in confirmed anemia, when the powers of life were nearly exhausted, the fibrine was in very large quantity; so that if this was an indication for blood-letting, then it should be most certainly adopted in this last condition. The absurdity of blood-letting, as a means of treatment, is now so generally admitted, that it seems useless to advance arguments against it. With reference to the uses of fibrine, there is much dispute, some contending that it is albumen prepared for the formation of tissue, while others contend that it is the elements of the worn out tissues.

The *red globules*, as we have already seen, form more than half of the solids of the blood. They are circular, flattened discs, varying in diameter from  $\frac{1}{3000}$  to  $\frac{1}{4000}$  of an inch in diameter. Examined singly, they appear colorless, but when aggregated, they give the red color to the blood. They consist of a cell wall, and an internal substance called *hematine*, containing iron, which is, undoubtedly, the coloring material. These bodies are highly organized, requiring a considerable time for their development, as we observe in disease, in cases of hemorrhage, and from blood-letting. They are the normal stimulus of all parts of the body; as when deficient, we find imperfect digestion, nutrition and innervation. In addition, they are the principal carriers of oxygen from the lungs to all parts of the system, and of carbonic acid gas back to the lungs. In this view they resemble small vessels freighted with life from the lungs to the tissues, and carry a return freight of death from the tissues to the lungs for its removal. If this carrying power was destroyed for five minutes, death would be inevitable and it has been supposed by some that some forms of sudden death, as from lightning, result from this. The white



corpuscles are much less numerous than the red, and are supposed by some writers to be embryo red globules.

The life of the blood is manifested in its coagulation, and the subsequent more perfect organization which it may attain when it coagulates among healthy living tissues. But, in a higher degree, its life is shown in its development and self-maintenance, in its liability to disease and death, and in the purpose and relation which connect it with other parts.

The formative power by which the blood maintains itself, is, perhaps, inherent in its whole substance, as we observe that the glands through which the chyle passes, is abundantly supplied with arterial blood. There are no blood-making organs, but the materials of digestion are formed into blood by contact with the blood itself. It possesses a large vitality, sufficient for its formation and preservation, and for the various purposes of the body. Though this is the case, no other part of the organism, as Liebig well remarks, can be compared to the blood, in respect to the feeble resistance it offers to external influences. It is not an organ which is formed, but an organ in the act of formation; indeed, it is the sum of all the organs which are being formed. The chemical force and the vital principle hold each other in such perfect equilibrium that every disturbance, however trifling, or from whatever cause it may proceed, effects a change in the blood. In fact, it possesses so little permanence, that it can not be removed from the body without immediately suffering a change, and can not come in contact with any organ in the body without yielding to its attraction.

#### **HEART AND BLOOD VESSELS.**

The heart is situated near the center of the chest between the lungs, though to the left of the median line; the junction of the fifth rib with the breast-bone, marks its exact position. A very common error, is to suppose it situated im-

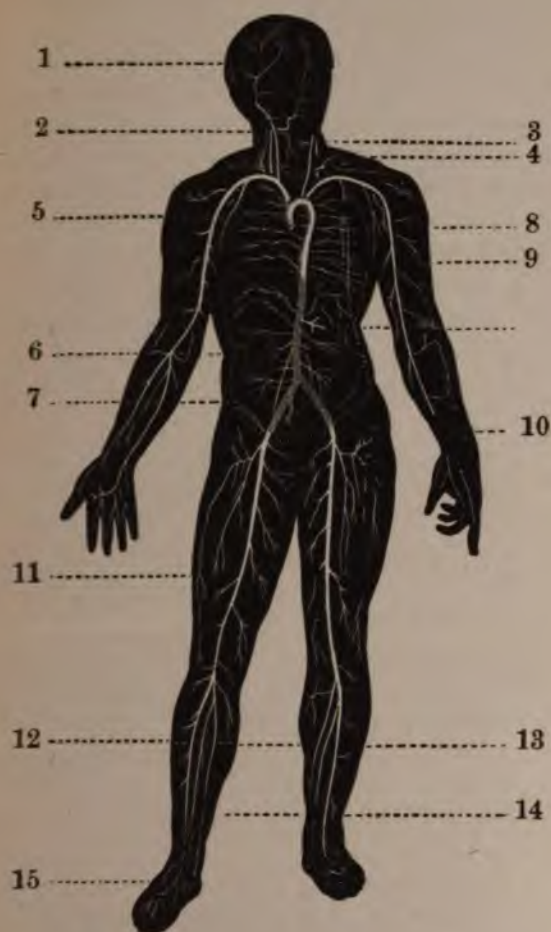
mediately below the breast-bone, or to the left under the false ribs, and attribute symptoms to it which arise from derangement of the stomach.

The heart is a hollow muscle, divided into four compartments, two on the right and two on the left side. The compartments are called *auricles* and *ventricles*, the first being situated above and having thin walls, the second below, and having thick walls. The circulation of the blood depends upon the contraction of the heart, which acts as a force pump to throw the blood to all parts of the system. If we examine it carefully we will see that all the venous blood in the body is gathered into two large veins, the ascending and descending *vena cava*. These empty into the right auricle, which, contracting, forces the blood into the right ventricle, and its contraction throws it into the pulmonary artery which conveys it to all parts of the lungs. A very important change now takes place in the blood, it gives off its carbonic acid gas, and receives a supply of oxygen, which changes its color from the purplish-red of venous blood, to the vivid scarlet-red of arterial blood. The blood is received from the lungs by four veins called pulmonary veins, which convey it to the left auricle; this contracting forces it into the left ventricle, which throws the blood through the aorta into every part of the body. The different openings in the heart are closed by strong membranous valves which prevent the backward passage of the blood when the heart contracts.

The blood propelled from the heart is distributed to the body by vessels called *arteries*, from the belief of the ancients that they contained air, being always found empty. These vessels are cylindrical tubes composed of three coats—an external dense fibrous, a middle elastic, and an internal lining membrane. The veins possess the same structure, though their walls are much thinner, and they are supplied with valves to prevent a reflux of blood. Owing to the elasticity of the arteries, their walls yield at



Fig. 3.



## ARTERIAL SYSTEM.

1, Temporal Artery. 2, Carotid Artery. 3, Vertebral Artery. 4, Subclavian Artery. 5, Aorta. 6, Abdominal Aorta. 7, Iliac Artery. 8, Axillary Artery. 9, Brachial Artery. 10, Radial Artery. 11, Femoral Artery. 12, Anterior Tibial Artery. 13, Posterior Tibial Artery. 14, Peroneal Artery. 15, Dorsalis Pedis Artery.

each impulse of the heart, and contract when it has passed, hence the pulsation of all arteries are synchronous with the beats of the heart.

We wish to study the situation of the principal arteries with reference to injuries, that we may know where to apply pressure to arrest a flow of blood. The large artery arising from the heart is called the *ascending aorta*, passing upward, and to the right about three and a half inches; thence curving to the left and backward, the *arch of the aorta*, then downward on the anterior surface of the spine to a point just posterior to the *umbilicus* or navel. In this course it sends off, first, two large vessels which go to the right side of the head and right arm, and next two others, which go to the left side of the head and left arm. By examining Fig. 3, the course of these arteries and their distribution may be readily seen. Passing downward, the *aorta* gives branches to the walls of the chest, next to the diaphragm, then to the stomach, liver, spleen, small intestines, kidneys and large intestines, finally dividing into two large trunks which supply the organs in the pelvis, and pass down the lower extremity.

The system of arteries may be compared in its arrangement to the trunk and branches of a tree, except that very frequent communications exist between these branches, so that by a continual sub-division and inosculation, their distribution comes more and more to resemble the capillary net work in which they terminate. (See Fig. 3.) "Although the *diameters* of the branches, at each sub-division, together, exceed that of the trunk, yet there is but little difference in their respective *areas*; what difference does exist, however, is usually in favor of the branches."

The minute vessels in which the arteries terminate, are called *capillaries*. They vary considerably in size, their average diameter being about  $\frac{1}{3000}$  of an inch, and the spaces between them does not exceed, and in many situations is much less than the size of the vessel. So closely

are they situated that the finest pointed needle can not be introduced into any tissue without wounding them and causing a flow of blood. Looking at it in this light, almost one-half of our bodies is composed of blood-vessels. It is from these minute vessels that the tissues derive their nutrient matters, and when a vessel carrying red globules would interfere with the function of a part, the vessels are so minute as only to carry the colorless portions of the blood, as is the case in the transparent structures of the eye.

The *veins* receive the blood from the capillaries, and convey it to the heart. As before remarked, their walls are thinner, and their course more tortuous, and a retrograde movement of the blood is prevented by the presence of valves. The heart furnishes the principal motive power to the blood in the veins, though this is doubtless increased by the action of the muscles.

#### NUTRITION.

Very closely associated with digestion, the structure, composition and circulation of the blood, is the formative process by which the various parts of the body renew their substance. Among the most familiar examples of nutrition and growth, may be cited the nails and hair. I take these as examples, because they are visible and readily appreciated. The nails and hair are cut frequently, and are observed to grow, and become as long as ever. This growth, in the one case, takes place by the continued formation of nail at its root or *matrix*, and in the other in the hair bulbs. If, now, we should examine these parts with a magnifying glass, we would find that minute cells are constantly being formed, and that as they grow they abstract from the blood the material for nails and hair. As this formation continues, those which were developed yesterday, are pushed further from the blood-vessels that supply them, and, in a few days more, have become elongated, and lose their fluid and form a part of the nail or hair.



So it is in all parts of the body. Each structure and tissue possessing vitality sufficient to live, possesses the power of producing formative cells. If a part loses this property, it soon becomes worn out, or loses its function, as we witness in old age. These cells are microscopic, from the  $\frac{1}{300}$  to the  $\frac{1}{15000}$  part of an inch in diameter. Its wall is apparently structureless, and it is filled with *protein compounds*, in the case of the tissues; bone in bone cells, and fat, in the case of adipose tissues. We have heretofore noticed, when describing the formation of the human being, that the egg from which the process of development commenced, was a cell, and that the germinal membrane from which the body was developed, was formed by the growth of cells in the egg.

Each tissue and part has its own peculiar cells, capable of abstracting material from the blood for the nutrition of that part. The tissue is the parent of the cells, and it is a law in nature that offspring possesses all the general characteristics of parents. Thus fibrous tissue produces fibrous cells, muscular tissue muscular cells, bone tissue bone cells, etc. In the young this process of cell growth is very rapid, so as to increase the size of the part. In middle age it is just sufficient to maintain the part in a normal condition, while in old age it gradually ceases, and the part finally dies.

Associated with the process of nutrition, is the wearing out and constant removal of the tissues. The material of which our bodies are formed is not very substantial, and, at farthest, can last but a few years; hence the necessity for its replacement. Certain portions are being worn out every day, and have to be removed to give place to the new. It becomes soluble, is absorbed by the blood-vessels, and removed from the blood by the excretory organs. If this process of breaking down be interfered with, the parts become old, and in the same ratio lose their functions. "The *duration of life in each particle*, is, however, liable to be modified; especially by the exercise of the



function of the part. The less a part is exercised the longer do its component particles appear to live; the more active its functions are, the less prolonged is the existence of its individual particles."

The conditions necessary to nutrition are: "1st. A right state and composition of the blood, from which the materials for nutrition are derived. 2d. A regular and not far distant supply of such blood. 3d. A certain influence of the nervous system. 4th. A natural state of the part to be nourished."

### SECRETION.

Secretion is the *separation* of some material from the blood, either for some use in the body, as the secretion of saliva, bile, etc., or for removal, as the secretion from the skin, kidneys and bowels. The first is termed a *recrementitious*, the last an *excrementitious* secretion. For the production of a secretion a special apparatus is required, which is always alike in its minute structure, however it may differ in its general detail. The simplest form of a secretory organ consists of a minute simple tube, closed at one extremity, and receiving a very free supply of blood. This tube possesses the power of forming cells with great rapidity, and these of abstracting from the blood the material for the secretion, whether it be gastric juice, bile, sweat, etc. When it has filled itself from the blood, it has served its purpose, is ruptured, and discharges its contents into the tube. A small gland consists of but one such tube or duct, as is the case with the gastric follicles and others. A large gland is simply a combination of such tubes, no matter what its shape or size.

Normal secretion, both recrementitious and excrementitious, is necessary to health; hence it will be profitable to notice the *circumstances influencing secretion*, which I will quote from Kirkes:

"The influence of external conditions on the functions of glands is manifested chiefly in alterations of the quantity of secretion, and among the principal of these condi-

tions are variations in the quantity of blood, in the quantity of the peculiar materials for any secretion it may contain, and in the conditions of the nerves of the glands.

"In general, an increase in the quantity of blood traversing a gland, coincides with an augmentation of its secretion. Thus, the mucous membrane of the stomach becomes florid when, on the introduction of food, its glands begin to secrete. The mammary gland becomes much more vascular during lactation, and it appears that all circumstances which give rise to an increase in the quantity of material secreted by an organ, produce, coincidentally, an increased supply of blood. In most cases, the increased supply of blood rather follows than precedes the increase of secretion.

"Glands also secrete with increased activity when the blood contains more than usual of the materials they are designed to separate. Thus, when an excess of urea is in the blood, whether from excessive exercise, or from destruction of one kidney, a healthy kidney will excrete more than it did before. It will, at the same time, grow larger: an interesting fact, as proving both the identity of secretion and nutrition in glands, and that the presence of certain materials in the blood may lead to the formation of structures in which they may be incorporated.

"The production of secretions often appears, also, to be influenced by the condition of the nervous system. It is not possible to say, with certainty, whether the secretion of a gland would be arrested by the division or destruction of all the nerves distributed to it, for the branches of these nerves are largely spread over the blood-vessels, so that their destruction can not be effected without serious injury to the vessels. The most distinct instances of nervous influence are shown in cases of secretion of the earthy phosphates, by the kidneys, after injury of the spinal cord. Whatever, within certain limits, excites the nerves of a gland, is followed by an increase in the quantity of its secretion."

**THE SKIN AND ITS SECRETION.**

The skin is not only the investing membrane of the whole body, but it is also one of the most important *excretory* organs; in this respect being essential to life. It is composed of two parts—an internal layer, thick and strong, formed of fibrous and elastic tissue, called the *derma*, or true skin, and an external layer, composed of desiccated cells, which overlap each other like the scales of a fish, are horny, and afford it efficient protection. On examining the true skin, it will be found covered with minute elevations, termed *papillæ*, in which the sensitive nerves are distributed.

FIG. 4.

**SUDORIFEROUS GLAND.**

Magnified 30 diameters.  
a, convolutions of duct beneath the skin;  
b, b, under surface of the skin; c, c, fatty tissue; d, the duct; e, its opening on the surface. The three layers of which the skin is composed, are shown.

Within the skin we find the *sudoriferous*, or sweat glands, *sebaceous follicles*, and *hair bulbs*. The first secrete the sweat, and are very numerous, being estimated at about 417 to the square inch, or from 600,000 to 700,000 in a full grown man. Each of these glands consists of a convoluted tube passing through the entire thickness of the skin, and abundantly supplied with blood. The estimated length of these tubes in the body is 28 miles, an immense amount of drainage for a small surface.

Perspiration, or sweat, is composed principally of water, holding in solution a small proportion of effete material, supposed to amount to about one hundred grains, or nearly one-fourth of an ounce. Not only does the perspiration carry off this effete matter, but it also removes any excess of heat, a very important function.

It has been proven by experiment that if the skin was hermetically sealed up, as by the application of collodion or other material, an animal would die in five min-



utes. And even where but five-sevenths were occluded, death took place at a longer interval.

The sebaceous glands are usually situated at the root of a hair, and furnish an oily secretion for the lubrication of the skin. The hair follicles, are depressions in the true skin, profusely supplied with blood, which furnish the cells that are formed into hair. So long as these follicles are healthy, hair will be produced, but if destroyed by disease, the loss of hair will be permanent.

Examining the skin with reference to its functions, we must realize that the maintenance of the normal condition of this very extensive and highly sensitive tissue, is of primary importance in the preservation of health. This is satisfactorily proven by the morbid conditions so frequently and so speedily induced by the suppression of perspiration or by derangement of its normal functions. When we take into consideration the extent of the cutaneous tissue, the innumerable sudoriferous glands, the ducts of which penetrate it and empty upon its surface, through which much of the effete matters of the system should escape, and through which they do escape in a state of health, we can not be insensible to the important office it performs. We can also readily understand the influence which it is capable of exerting upon the whole system if its normal functions are arrested, and also the very salutary influence which may be exerted upon it and through it upon the entire system in subverting morbid action in disease.

#### *THE URINARY APPARATUS AND SECRETION.*

The urinary apparatus consists of the kidneys, two in number, which secrete the urine; of two tubes, ureters, which convey it away; of a hollow organ, the bladder, which serves as a receptacle for it; and of a second canal, the urethra, through which it is removed from the body.



FIG. 5.



The *kidneys* are situated in the posterior part of the abdomen, on the right and left side, and perfectly protected from injury by the structures surrounding them. Each kidney is about four or five inches in length, two and a half in breadth, and a little more than one inch in thickness, weighing from three to five ounces. In shape it very much resembles a bean, the depression in one border receiving the large renal artery, and giving exit to the renal vein, and containing the pelvis of the kidney which is the dilated upper portion of the ureter. If we cut it in two from above downward, we will find it presenting the appearance of Fig. 5, consisting of numerous cones, with their base outward, and their apex toward the pelvis of the kidney, and of a second structure darker colored, and about half an inch in thickness, and investing the entire kidney. The cones are composed of small tubes, called *tubuli uriniferi*, which empty into the pelvis, and pass to the outer vascular coat. The external or vascular coat consists of small red globular bodies, formed of a dilatation of a uriniferous tube containing a tuft of capillary blood-vessels, of minute convoluted uriniferous tubes, and of arteries and veins. The water of the secretion is poured out in the funnel-shaped expansion of the tube, whilst the solid elements of the secretion are removed by the convoluted walls of the tube, in the manner heretofore named, when speaking of secretion.

The *ureters* pass from the kidneys to the bladder, and are membranous tubes about the size of a goose-quill, and some eighteen inches in length. The *bladder* is a hollow, muscular organ, situated within the pelvis, and capable of containing from one to two pints of fluid. It is composed of three coats, an external serous, derived from the serous

membrane of the abdomen, a middle muscular, which has an attachment in front to the bones of the pelvis, and an internal mucous lining. Its function is simply to receive and contain urine for a suitable period, and then expel it from the body. The urine is expelled, partly by the contraction of its own muscular tissue, and partly by the muscles of the abdomen. The *urethra* is the canal that conveys the urine from the bladder out of the body, and is about two inches in length in the female, and about nine inches in the male, and has an average diameter of about three-eighths of an inch. It consists of a membranous portion, lined by a mucous membrane, the latter of which is very delicate and sensitive. Closely connected with the urinary organs, is the sexual system of both male and female, which will be fully described in Vol. II.

The urine is a yellowish, amber-colored fluid, possessing a strong, disagreeable odor, and a bitterish saline taste. The average quantity of urine passed in twenty-four hours, is estimated at thirty ounces in summer, to forty ounces in winter, the solid matters varying from 20 to 70 parts in 1,000, amounting to from 600 to 700 grains, the remainder being water. According to Golding Bird, the solids of the urine in man in twenty-four hours is as follows:

|  | Grains. |
|--|---------|
| Urea,        -   -   -   -   -   -   -   -   -     | 270.    |
| Uric acid,   -   -   -   -   -   -   -   -   -     | 7.6     |
| Fixed salts, -   -   -   -   -   -   -   -   -     | 150.    |
| Organic matters and vegetable saline combinations, | 176.    |

In a physiological view, the urine may be regarded as arising from three general sources, each acting alike in preserving the equilibrium of the delicately-adjusted balance of the secreting and depurating functions of the body. The effects of copious aqueous potations producing a free discharge of pale urine, at once indicates one source of the great bulk of the urinary secretion, and demonstrates one of the most important functions of the



kidneys in their pumping off any excess of fluid which may enter the circulation. A second great duty of these organs is shown in the physical and chemical characters of their secretion after the digestion of food is completed. Here it is no uncommon circumstance to detect the presence of some traces of the elements of an imperfectly digested meal; and in unhealthy and irritable states of the digestive organs, to discover some abnormal constituent in the urine arising from the incomplete assimilation of the recently digested food. Of the former of these states, the peculiar odor and color of the urine, after the ingestion of asparagus, seakale and rhubarb, afford an example; and a good illustration of the latter is met with in the copious elimination of oxalic acid from the blood shortly after a meal in some cases of irritative dyspepsia. It is, indeed, a general law, that any substance which has entered the circulating mass, and not being required for the nutrition of the body, nor forming a normal element of healthy blood, always escapes from the system by way of the kidneys, providing it exists in a state of complete solution. Hence these most important emunctories have the duty of removing any imperfectly assimilated elements of the food which have been absorbed, while traversing the small intestines, and entered the circulating mass; as well as excreting the often noxious results of unhealthy digestion. The third function of the kidneys is their serving as outlets to evolve from the animal organism those elements of the disorganization of tissues which can not perform any ulterior process in the economy, nor be got rid of by the lungs or skin.

"It is well known that our bodies are always in a kind of transition state; that during each moment of our existence, every atom of the frame is undergoing some change or other; the old matter is absorbed and thrown off at one or the other of the excretory outlets of the body, and new matter is deposited from the blood to take its place. The old and effete atoms of the animal structure are not

excreted in the form of dead tissue, but becoming liquefied they re-enter the circulation, their elements being re-arranged; one series of combinations thus produced, rich in nitrogen, is excreted by the kidneys, while those products which contain a preponderance of the inflammable elements, carbon, hydrogen and sulphur, are called upon to perform, chiefly through the medium of the liver, an important office, previous to their final elimination from the system."—*Bird*.

The principal constituent of the urine is eminently poisonous if retained within the blood, giving rise, if in small quantity, to disturbance of the brain and nervous system, and of the stomach; whilst if in large quantity it produces stupor, coma, convulsions and death. An entire arrest of the secretion for twenty-four hours would prove fatal, though a person might live for several days with but partial suppression.

### THE BOWELS AS EXCRETORY ORGANS.

We have already considered the intestinal canal with reference to its principal function—the digestion of food—but it has another and important one as an excretory organ. The material discharged from the bowels daily as *feces*, consists in part of the debris of the food, but principally of material thrown off from the blood through the intestinal wall. There seems to be no proper secreting structure for this purpose, and it is possible that it is effected by the mucous membrane alone. The quantity of fecal discharge from the bowels daily, averages about six ounces, but at least 75 per cent. of this is water, so that the solids do not amount to more than one-and-a-half ounces.

Torpor of the bowels deranges the process of digestion, and induces disease. In this condition, digestion is imperfectly performed, and frequently food is retained in an imperfectly digested condition, much longer than the laws



of health will tolerate. While retained, it is mingled with the various products of secretion eliminated from the blood through the wall of the canal. This heterogeneous mass becomes more irritating, and we may add, disease-creating, in proportion to the time it is retained in the bowels. The more liquid portions are re-absorbed into the blood, contaminating that fluid, causing sick headache, pain in the back and limbs, loss of appetite, fever, etc.

### **THE RESPIRATORY APPARATUS AND ITS FUNCTION.**

The respiratory apparatus consists of the nose, pharynx, larynx, trachea, bronchial tubes and lungs. (See Fig. 6.) The nose is an organ of special sense, and will be described hereafter; we notice it now, simply as the passage by which the air gains the lungs; air may enter through the mouth but this is not common. The pharynx is the membranous sac immediately behind the tongue, and forms the principal part of what is generally spoken of as the throat, forming part of both the air passages, and the passage for the food.

If the tongue is depressed, and we look into the mouth, we will notice a constriction at the posterior part of the tongue, called the *fauces*, and situated at this point, two almond shaped glands—the *tonsils*. Hanging from the roof of the mouth at this point, is the *soft palate*, with a smaller depending portion—the *uvula*—and posterior to, and below the tongue, a reddish substance projecting upward—the *epiglottis*—the first portion of the larynx. Behind all these we notice a somewhat large cavernous space, which is the *pharynx*, the part first spoken of. These various parts assist in the acts of deglutition, respiration, and modulation of the voice, and their change by disease is very unpleasant, and sometimes gives rise to serious consequences.

The larynx is situated immediately below the tongue, and not only forms a part of the air passages, but is especially

interesting as the organ of the voice. It is composed of a frame-work of seven cartilages, articulated together by as perfect joints as the knee or elbow. These cartilages are moved by several small muscles, which varies the size and form of the passage through it. If we examine its cavity, we will find it divided by two prominent elevations of the mucous membrane on each side, which are caused by two bands of fibrous tissue that pass from behind forward, and are called the vocal cords. The cartilages of the larynx and muscles are so arranged that these cords can be made tense or relaxed, brought near together to diminish the aperture, or drawn apart to relax it. Hence the great range of the human voice, commanding two or three octaves. Modulations of the voice take place in the throat, nose and mouth, and articulation by the tongue, teeth and lips.

The *trachea* is the continuation of the air passage downward from the larynx. It is a cylindrical tube about one inch in diameter, formed of a skeleton of cartilaginous rings, covered by fibrous tissue and lined by mucous membrane. These rings do not come together by one-third to one-half of an inch behind, as is also the case with the bronchial tubes; the interspace being filled by muscular fibre, the diameter of the tubes can be greatly lessened, as is the case in the act of coughing and sneezing, and the cause of the difficult breathing in asthma.

As just remarked, the *bronchial tubes* very closely resemble the trachea. They commence by a bifurcation of the air passage immediately below the third rib, and pass one to the right, and one to the left lung, distributing branches to all parts of them. When they become very small, the cartilaginous rings are replaced by plates of cartilage, and at last these cease, and the tubes consist simply of fibrous walls. Each minute bronchial tube forms a miniature lung; dividing into *intercellular* passages, these are studded with air cells, like grapes upon a stem, and so numerous that they are estimated at 600,000,000 in a grown man

ment of the lung to the walls of the chest that gives them motion, as they possess in themselves neither the power to dilate nor contract.

The cavity of the thorax, as we have already seen, is formed of twelve ribs on each side, which arise from the dorsal portion of the spine, and pass backward, then forward and downward. Their direction is such that if their anterior extremities are raised, the diameters of the cavity of the chest are increased. The muscles of the chest are so arranged as to accomplish this. The inferior wall of the chest is formed of a single muscle, which, arising from the margin of the ribs, passes upward in the shape of a basin or funnel, the concavity being downward. When it contracts, its apex is drawn down, and it becomes level. The respiratory function consists, then, in an elevation of the ribs, and drawing downward of the diaphragm; the lungs being attached to the walls of the chest, as already described, the air is forcibly drawn in. The abdominal muscles acting, the ribs are drawn down, and the diaphragm thrown back, and the air is forced out of the lungs.

The lungs always contain a considerable amount of air, which is proved by portions of them floating after death. This fact is made use of to determine whether a child is still-born, or has been murdered; as in the first case, if the child has not breathed, its lungs are solid, and sink in water, while, if it has respired but once, they will float. The capacity of the lungs is indicated by the quantity of air which a person can expel from his lungs by a forcible expiration after the deepest inspiration he can make, and averages about 225 cubic inches in a full grown, healthy person. Though the lungs have this capacity, it is supposed that not more than from 20 to 25 cubic inches of air are changed in ordinary respiration. From sixteen to eighteen respirations are made per minute, and the amount of air respired in twenty-four hours amounts to

between three and four thousand gallons, containing about three-fourths of a pound of carbon.

Taking these facts as data, we will readily understand the importance of large sleeping apartments, school-rooms and public buildings. Experience seems to have fixed 800 cubic feet as the minimum of air that can be safely assigned for each individual, except when extraordinary provisions are in operation for its constant renewal by ventilation.

Carpenter draws the following conclusions from an extended series of observations: "In all climates, and under all conditions of life, the purity of the atmosphere habitually respired is essential to that power of resisting disease, which, even more than the habitual state of health, is a measure of the real vigor of the system; for, owing to the extraordinary capacity which the human body possesses of accommodating itself to circumstances, it not unfrequently happens that individuals continue for years to breathe a most unwholesome atmosphere, without apparently suffering from it; and thus, when they at last succumb to some epidemic disease, their death is attributed solely to the latter—the previous preparation of their bodies for the reception and development of the zymotic poison being altogether overlooked. It is impossible, however, for any one who carefully examines the evidence, to hesitate for a moment in the conclusion, that the fatality of epidemics is almost invariably in precise proportion to the degree in which an impure atmosphere has been habitually respired." That an atmosphere loaded with putrescent exhalations will furnish a material capable of receiving and propagating the seeds of disease, is proved by all our observations, and that the rate of mortality, severity and number of diseases, may be enormously decreased, by strict attention to the means of promoting atmospheric purity, is equally evident.



**THE LYMPHATIC SYSTEM AND ITS FUNCTION.**

In addition to the arteries and veins, we have another system of vessels, distributed minutely through the entire body, carrying a whitish fluid called lymph. Unlike the other, these do not become much larger as they approach the center of the body, but the principal channels are more numerous. Associated with these vessels are certain bodies called *lymphatic glands*, which are formed by the division into several branches of one or more lymphatic vessels, and the convolutions of these. They receive an abundant supply of blood, and the various parts are connected together by fibrous tissue, and the entire gland receives an investment of the same. These glands are found principally in the neck on each side, under the arms, in the groins, and within the cavities of the body. Enlargement and disease of these glands is the principal manifestation of scrofula.

It is supposed that the lymphatic vessels gather up any material in the tissues that may be further used in the body, and convey it back to the general circulation. A more reasonable supposition is, that the lymph is elaborated in the tissue to form the germs of the future blood, each tissue being thus represented in blood-making. The lymphatics of the intestinal canal are called *lacteals*; they absorb the chyle, and carry it to the large lymphatic trunk—the *thoracic duct*—which empties it into the venous system.

**THE NERVOUS SYSTEM.**

The nervous system consists of central nervous masses in which nerve force is generated, and nerve trunks that convey it to all parts of the body. The nervous system is divided into two distinct parts, one of which controls the functions of digestion, assimilation, the circulation of the blood, nutrition and secretion, and is properly termed the vegetative system; the other controls the functions of

animal life, is under the direction of the will, and called the *cerebro-spinal system*.

If we carefully examine the nerve centers, we will find them composed of nerve cells, nerve granules, and nerve fibers. Nerve cells and granules are always of a grayish, ashy color, as are also some of the nerve fibers, and in the brain, forms the outer gray layer, as well as the grayish matter internally, the gray substance of the spinal cord, and of the sympathetic ganglia. Nerve cells are very minute bodies, shown by the microscope to be composed of three or four cells one within another. Owing to this structure it has been surmised that nerve force is generated in the same manner as is electricity in a Groves' cup. Passing from this cell is a gray nerve fiber, which usually goes to a nerve granule, from which the white nerve fibers arise. All the white nerve structure of the brain and spinal cord, as well as the nerve trunks, is composed of minute nerve fibrillæ from the  $\frac{1}{308}$  to  $\frac{1}{1250}$  of an inch in diameter. They possess but little consistence in the nerve centers, and are in consequence, traced with difficulty, but in the nerve trunks they receive an investment of fibrous tissue which gives them great strength. A nerve fibril commences at a nerve cell, and passes to its termination at the surface of the body without change of size; a nerve trunk being composed of multitudes of these fibrils, is said to send branches to various parts, but the single fibril passes directly from its origin to its termination.

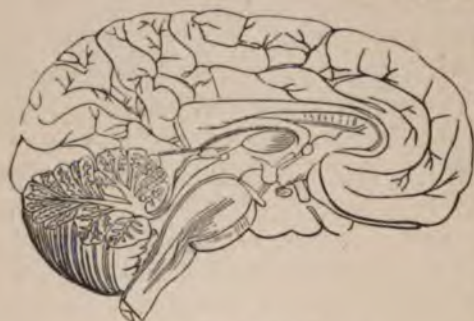
In the *cerebro-spinal system*, nerves are divided into two classes, nerves of sensation, and nerves of motion. The first convey impressions from without to the brain, while the second carry the commands of the brain to the various muscles of the body.

The *brain* is the large nervous mass contained within the cranium, weighing from two and a half to three pounds. It is invested by three membranes—an external dense fibrous membrane called the *dura mater*; a middle serous membrane, composed of two layers, forming a



shut sac, the *arachnoid*, and an internal vascular, consisting principally of blood-vessels, which penetrate the brain in all directions. It is ovoid in form, somewhat flattened at its base, which is marked by several depressions, some of which are caused by the configuration of the bones of the cranium, while others mark its division into different parts. Passing from before, backward, is a large fissure of considerable depth, which divides it into two hemispheres. It is, in fact, two brains connected together by nerve fibers.

FIG. 7.



THE BRAIN.

A section in the median line, showing the structure of one hemisphere.

The brain is divided into a superior portion called the *cerebrum*, a posterior portion the *cerebellum*, and several parts at the base termed *sensory ganglia*. The cerebrum seems to be composed of a nervous membrane folded together, the folds being called con-

volutions, which are distinctly marked. The external surface of the convolutions is composed of gray substance the internal of white. The two hemispheres of the cerebrum are connected together by a large mass of white substance—the *corpus callosum*—beneath which are several cavities called *ventricles*. The *cerebellum* is situated under the posterior part of the cerebrum, and seems to be formed in a similar manner, though the convolutions are much smaller. The *sensory ganglia* consist of two nervous masses, of gray and white substance, on each side of the median line, at the base of the brain. Fibers of communication can be readily traced from them to the cerebrum above, and two

large bundles of fibers pass downward to the *medulla oblongata*, and are termed the *crura*, or legs of the brain. The cerebellum also communicates with the medulla at the same point. This brief and imperfect description of a very intricate organ, must be assisted and interpreted by the accompanying cuts.

The *spinal cord* passes downward from the medulla oblongata through the entire length of the spinal canal, sending nerves in this course to all parts of the body. It is composed of white nerve fibers passing from the brain, and of gray nerve substance from which other nerve fibers arise. It is thus, in part, a mere nerve trunk, and in part a nervous center, in which nerve force is generated. It also has three envelops, or coats, like the brain, though the internal, instead of being vascular, is fibrous.

We wish, now, to briefly consider the function of these various parts, a subject of no little difficulty. Kirkes remarks, that, "taking together all the parts of the cerebro-spinal nervous system, except the cerebral hemispheres, they appear to include the apparatus, 1st, for the direction and government of all the unfelt and involuntary movements of the parts which they supply; 2d, for the perception of sensations; and 3d, for the direction of such instinctive and habitual movements as do not require the exercise of judgment, deliberation, memory, or any other intellectual act. The medulla oblongata and spinal cord have their office in none but involuntary and unconscious movements; but above the medulla, the pons, and other organs, appear capable of such conditions as the mind may perceive, and of being, by the will, excited to the production of orderly and voluntary movements.

"As regards the cerebral hemispheres, they are those of the organs by which the mind, first, perceives those clear and more impressive sensations which it can retain, and judge according to; secondly, performs those acts of will, each of which requires a deliberate, however quick, determination: thirdly, retains impressions of sensible things, and

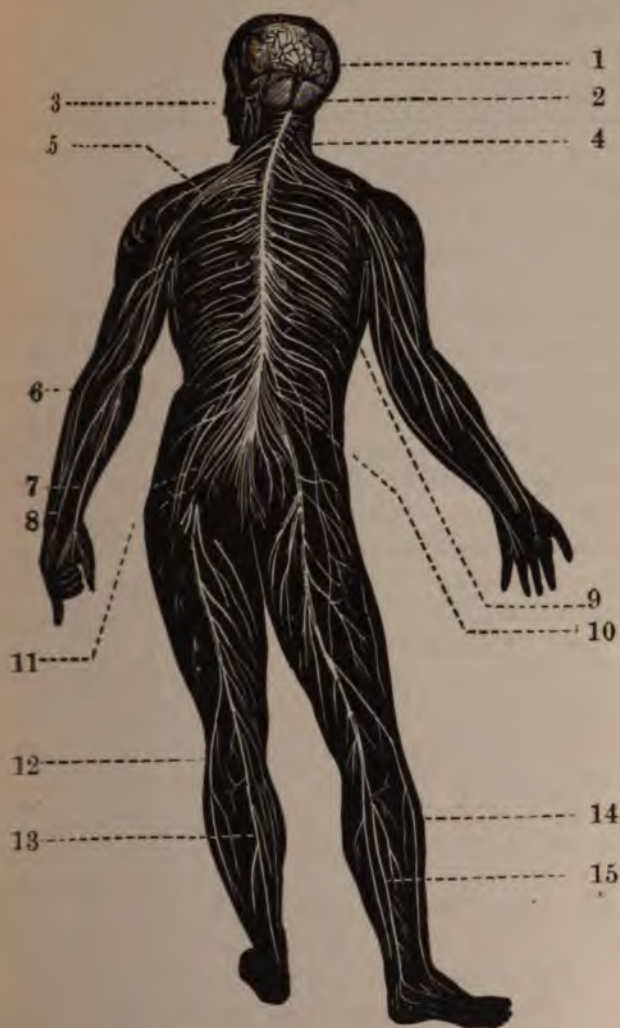


reproduces them in subjective sensations and ideas, fourthly, manifests itself in its higher and peculiarly human emotions and feelings, and in its faculties of judgment, understanding, memory, reflection, induction and imagination, and others of the like class. The cerebral hemispheres appear thus to be the organs in and through which the mind acts, in all these its operations, which have immediate relation to external and sensible things."

Nine pairs of nerves arise from the brain, and thirty-one from the spinal cord. Of those from the brain, the first and second, a branch of the fifth, and part of the seventh, are nerves of special sense, and are distributed to the nose—*olfactory*; to the eye—*optic*; to the tongue—*gustatory*; and to the ear, *auditory*. The third and fourth nerves pass to the muscles of the eye; the fifth, or *trifacial*, is the sensitive nerve of the face; the sixth passes to a muscle of the eye; a part of the seventh is distributed to the face; the eighth is composed of three nerves, *glossopharyngeal*, distributed to the throat and tongue, *pneumogastric*, which governs the action of the respiratory apparatus, and sends branches to the heart and stomach, and *spinal accessory* distributed to the neck. The ninth pair of nerves, or *hypoglossal*, are distributed to the muscles of the tongue. The thirty-one spinal nerves supply all the voluntary muscles below the head, and furnish sensitive nerves to all parts of the system except the face.

The *sympathetic* or organic system of nerves, consists of two nervous cords, situated on the anterior surface of the spinal column, and which have certain enlargements upon them termed *ganglia*. These ganglia are thirty-three in number on each side, and are composed of nerve cells and granules, doubtless furnishing the nerve-force for this system. As before remarked, the sympathetic nervous system supplies the organs of digestion, secretion and excretion, the blood-vessels, and undoubtedly control the nutrition of the body. The sympathetic nerves are very intimately connected with the spinal cord, by fibers of

FIG. 8.



## NERVOUS SYSTEM

1, Cerebrum. 2, Cerebellum. 3, Facial Nerve. 4, Spinal Cord. 5, Brachial Plexus. 6, Internal Cutaneous Nerve. 7, Median Nerve. 8, Ulnar Nerve. 9, Intercostal Nerves. 10, Lumbar Nerves. 11, Sciatic Nerve. 12, Peroneal Nerve. 13, Posterior Tibial Nerve. 14, Anterior Tibial Nerve. 15, Anterior Tibial Nerve.

communication; hence the intimate sympathy between the two.

### PHRENOLOGY.

Before leaving this subject it will be expected that I give an opinion upon the "science of the mind," about which so much has been said of late years. That the principles of phrenology are true there can be no doubt, and they are admitted by all educated men. But the details of it, as the mapping out of the various minute organs upon the skull, and proposing to determine them by the elevations and depressions of bone, is most certainly, to some extent, a humbug. It is very difficult to separate the true from the false, and when truth is burthened with falsehood, the probabilities are that at first it will be rejected. Phrenologists can determine the general character of an individual, but they do it by the general configuration of his head, rather than from bumps.

FIG. 9.



Figure 9, from a phrenological work, illustrates the opinion I have just expressed; it presents six divisions, each of which can be distinctly defined, not by any perceptible elevation, but by its proportionate dimensions compared with other parts. The first division, embracing the forehead immediately above the eyes, contains the perceptive faculties, and its

size and prominence is a pretty accurate index of the intellect. The division immediately above, forming the upper part of the forehead, is determined to be the seat of reason. The upper and anterior division embraces the moral sentiments, and gives elevation to character. Immediately below this, we have a group of faculties that might be denominated, semi-intellectual sentiments. Still, below



this, and surrounding the ear, we find the selfish propensities. The posterior division embraces the domestic propensities; and the last division at the upper and posterior part of the head, the selfish sentiments.

Whilst I doubt the possibility of making those minute divisions that are described by phrenologists, we must admit that the brain contains all the organs they describe, if not more. The only difficulty I see, is the determining of them by perceptible elevations or depressions of the bones of the cranium. There is no doubt that the bones are moulded by the brain beneath, and that they change their form as it changes its shape, but as yet I have not been able to see the minute elevations and depressions mentioned. The following from Chambers' Information for the People, will give the principles of phrenology in brief:

"THE PRIMITIVE FACULTIES OF MIND, AS CONNECTED WITH THEIR  
ORGANS IN THE BRAIN."

"Mind, which was considered by the metaphysicians as a single thing or essence, was said by them to be capable of being in different *states*, in each of which state it made one of its various manifestations, as memory, judgment, anger, etc. In no particular does the phrenological hypothesis differ more from the metaphysical than in this. The phrenological doctrine is, that the brain, the organ of the mind, is divided into various faculties, each of which has its own mode of acting. It is held—

"*First.* That by accurate observation of human actions, it is possible to discriminate the dispositions and intellectual power of man, such as love, anger, benevolence, observation, reflection, etc.

"*Second.* That the true form of the brain can be ascertained from the external form of the head; the brain, though the softer substance, being what rules the shape of the skull, just as a shell takes its form from the animal within.

"*Third.* The organs or parts into which the brain is

divided, all of which organs are possessed by every individual except in case of idiocy, appear on the brain's surface in folds or convolutions, somewhat like the bowels or viscera of an animal, but have a well ascertained fibrous connection through the whole substance of the brain with one point at its base, called the *medulla oblongata*, which unites the brain to the spinal cord. The organs have thus each a conical form from the medulla oblongata to the surface; the whole being not inaptly compared to the stalks and flower of a cauliflower.

"*Fourth.* The brain is divided into two equal parts called *hemispheres*; on each side of the fosse or division between these hemispheres the same organ occurs; all the organs are therefore double, in analogy with the eyes, ears, etc. But when the term *organ* is used, both organs are meant. The organs which are situated close to the middle line drawn vertically on the head, though close to each other, are nevertheless double; for example, Individuality, Benevolence, Firmness, etc.

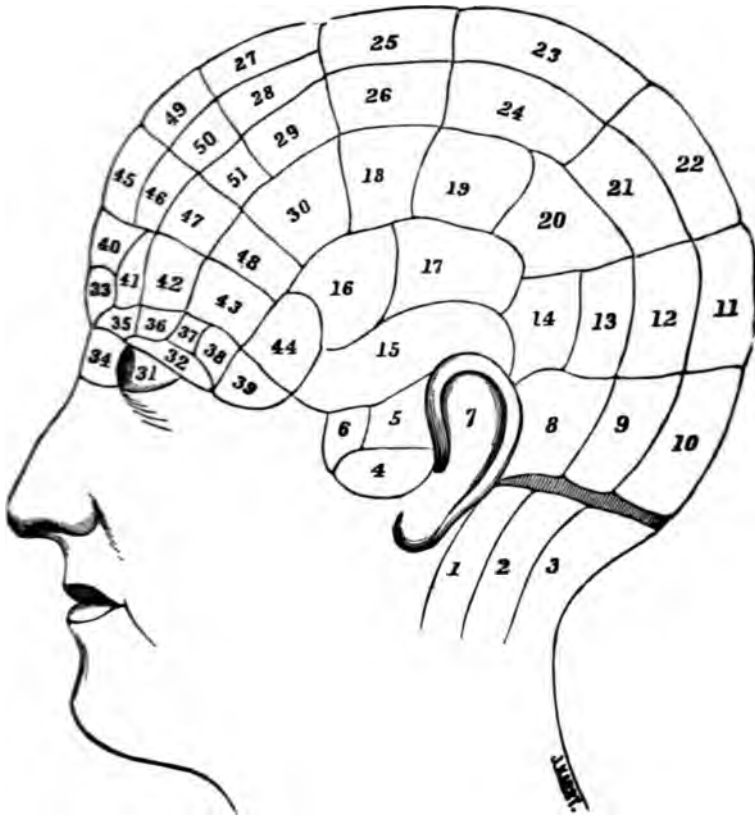
"*Fifth.* Besides the brain proper, there is a smaller brain, attached to the hinder part of the base of the brain, called the *cerebellum*.

"*Sixth.* The brain, including the cerebellum, is divided into the *anterior*, *middle*, and *posterior lobes*. The cerebellum forms part of the posterior lobe. The anterior lobe contains all the intellectual faculties; the posterior and lower range of the middle lobe are the regions of the animal propensities; while the moral sentiments are found, with a sort of local pre-eminence, to have their organs developed on the top or coronal surface of the head."

Figure 10 represents the location of the various faculties of the mind, as designated by phrenologists, and time, which proves all things, has given conclusive evidence of its general correctness. Some persons claim to have that skill in manipulation, and delicacy of touch, that they can determine the exact character of an individual by the contour of each individual organ. Whilst doubting this, I

readily admit that a person skilled in phrenology can detect the general character and intellectual standing of most individuals.

FIG. 10.



- |                            |                              |
|----------------------------|------------------------------|
| No. 1, Animal Sensibility. | No. 8, Vitativeness.         |
| " 2, Muscular Motion.      | " 9, Philo-ancestry.         |
| " 3, Amativeness.          | " 10, Philo-progenitiveness. |
| " 4, Pneumativeness.       | " 11, Inhabitiveness.        |
| " 5, Alimentiveness.       | " 12, Adhesiveness.          |
| " 6, Hydrativeness.        | " 13, Gregariousness.        |
| " 7, Sanativeness.         | " 14, Combativeness.         |



|                          |                        |
|--------------------------|------------------------|
| No. 15, Destructiveness. | No. 33, Individuality. |
| " 16, Acquisitiveness.   | " 34, Form.            |
| " 17, Secretiveness.     | " 35, Size.            |
| " 18, Watchfulness.      | " 36, Weight.          |
| " 19, Cautiousness.      | " 37, Color.           |
| " 20, Resentfulness.     | " 38, Order.           |
| " 21, Approbateness.     | " 39, Number.          |
| " 22, Self-Esteem.       | " 40, Eventuality.     |
| " 23, Firmness.          | " 41, Locality.        |
| " 24, Conscientiousness. | " 42, Time.            |
| " 25, Submissiveness.    | " 43, Melody.          |
| " 26, Hopefulness.       | " 44, Plan.            |
| " 27, Benevolence.       | " 45, Comparison.      |
| " 28, Imitativeness.     | " 46, Casualty.        |
| " 29, Marvellousness.    | " 47, Method.          |
| " 30, Perfectiveness.    | " 48, Harmony.         |
| " 31, Common nouns.      | " 49, Analogy.         |
| " 32, Proper nouns.      | " 50, Suggestion.      |
|                          | " 51, Evidence.        |

There is nothing more clearly established than that every function of the brain may be increased or diminished by exercise, or want of use. This is in accordance with the general law, that any part that is continually called into action, receives a more abundant supply of blood, its nutrition is increased, and it becomes larger. The brain is no exception to this rule, as it increases in size and density in proportion to its use; and any portions that are called into action more frequently than others, obtain a proportionately greater development. We have heretofore seen that a group of muscles would increase in size by use, of which we have very marked examples in the arm of the blacksmith, and the legs of public dancers. And it is a well known law of our being, that parts increase in size and strength to meet all legitimate demands upon them. Conversely, we find that parts diminish in size, and lose their function by want of use. Thus

we have reported instances in which Eastern Fakirs, by retaining their arms in one position for years, would finally lose the use of them.

We have very marked examples of this natural law, in the occasional development of the special senses. A sailor is able to see a ship in the distance, and even determine its size, character and nationality, when a landsman would be unable to perceive any object, or, at least, very indistinctly. A musician has so developed his organ of hearing, that he is enabled to detect the most minute variations in sound; and the Indians, and even white hunters, so cultivate this sense that they are enabled to hear sounds that are entirely inappreciable to the uneducated ear.

The various functions of the brain may be increased or diminished; and this is a matter of very great interest to parents, educators, and to each individual. Each person's destiny is, to some extent, in his own hands, and he has the power of development in an almost unlimited extent. Does he wish to be learned—continued exercise will develop observation, the reasoning faculties, and memory, almost as far as may be desired by the most sanguine. Does he wish to influence the people by oratory—careful cultivation and exercise will, as was the case with Demosthenes, give power and freedom of speech.

Exercise not only gives increased power to an organ or function, but as this depends upon an increase of structure, it is, to a very considerable extent, permanent. Thus the boy who continues to give way to, or, as we might more properly say, cultivate his evil propensities, will invariably become a bad man, and if this is continued up to the age of forty or fifty, a reformation will be almost impossible. Even at a much earlier age it will be found very difficult to break off bad habits, and the evil disposition will continue to annoy the individual as long as he may live. On the contrary, if the moral faculties are cultivated, they become stronger year by year, until they so

predominate that the man is a good man almost in spite of himself.

Spurzheim remarks that, "in the greater number of persons, the lower faculties are the most active, and several of them more so than others. This explains the great activity of the animal nature of man. Again, single individuals, each of the sexes, the inhabitants of certain provinces, and whole nations, possess individual faculties more active than others. These primitive dispositions must first be studied, and each power cultivated in harmony with the dictates of general morality. Any feeling that is naturally too active, should never be exerted. Hence, in those children, and nations, whose character is strongly marked by the love of approbation, this feeling should never be nourished by education; for, if predominant, it becomes the cause of great mischief, and it is evidently a great fault to encourage it continually, and to hold out approbation and glory as the principal reward of any action.

"On the other hand, no strong feeling can be overcome at once; its activity will appear in one way or another, and the object of the teacher or parent ought to be, to make the best use of it. The love of approbation, for instance, may lead to war or peace, to idleness or industry, to vice or virtue, according to the object approved by the directors. It is the same with any fundamental power. Has not every crime been committed, and every virtue exercised, under pretence of glorifying God, or of obeying God rather than men?

"The faculties *proper* to man being given to govern every where, are to be cultivated incessantly, and in every one, while the powers common to man and animals, should be encouraged only in so far as they contribute to the great end of the satisfaction of the properly human nature, or to general happiness. The animal faculties may be employed as means, but not any one should become the aim of our existence. They may do good.



when subordinate, but they produce much evil, as soon as their gratification becomes the aim of life. It is remarkable, that all institutions, true Christianity excepted, are founded on selfish principles, and that by far the greater number of the motives, which they propose to mankind, originate in the animal feelings."

Youth is the proper time for the commencement of proper mental training, and for the development of the higher faculties, and repressing, by the influence of the will, the baser passions. It should be firmly impressed upon the young that they hold their destiny in their own hands, and that they have the power, inherent in themselves, of almost unlimited development. They can now so strengthen the will and reasoning powers, that it will be sufficient to regulate the mind through life. Conversely, they should understand that the animal passions and instincts may obtain such preponderance, if they now give way to them, as will render this life a failure, and entirely unfit them for happiness in the life to come.

There are no persons but what may become good men and women, as there are none but what might sink to the level of the brute, or become devils in human form. In each case the development is strictly in accordance with natural laws of growth by exercise, and if we had none other, this would be sufficient evidence of the truth of Holy Writ. While, then, we should set before the young the fact that their success in life is wholly in their own hands, they should be impressed that they are developing characters that endure through all eternity. The spiritual man has form and size like the natural man; and its development and growth is going on day by day, by the exercise of the mind in this life. If the better principles of our nature are exercised, they increase in strength; if the animal passions are exercised, they also increase—in the one case forming a character that will do good, and get good, in this world and the world to come; and in

the other that will do evil, and get evil, and fit the person for the society of evil spirits.

### **EXAMPLE.**

Example is one of the most potent of instructors, though it teaches without a tongue. It is the practical school of mankind, working by action, which is always more forcible than words. Precept may point to us the way, but it is silent, continuous example, conveyed to us by habits, and living with us, in fact, that carries us along. Good advice has its weight; but without the accompaniment of a good example, it is of comparatively small influence; and it will be found that the common saying of "Do as I say, not as I do," is usually reversed in the actual experience of life.

All persons are more or less apt to learn through the eye, rather than the ear; and, whatever is seen in fact, makes far deeper impressions than anything that is read or heard. This is especially the case in early youth, when the eye is the chief inlet of knowledge. Whatever children see they unconsciously imitate; and they insensibly become like to those who are about them—like insects which take the color of the leaves they feed on. Hence the vast importance of domestic training. For whatever may be the efficiency of our schools, the examples set in our homes must always be of vastly greater influence in forming the characters of our future men and women. The home is the crystal of society—the very nucleus of national character; and from that source, be it pure or tainted, issue the habits, principles and maxims, which govern public as well as private life. The nation comes from the nursery; public opinion itself is for the most part the outgrowth of the home; and the best philanthropy comes from the fireside. "To love the little platoon we belong to in society," says Burke, "is the germ of all public affections." From this little central spot, the human



sympathies may extend in an ever-widening circle, until the world is embraced; for, though true philanthropy, like charity, begins at home, assuredly it does not end there.

Example in conduct, therefore, even in apparent trivial matters, is of no light moment, inasmuch as it is constantly becoming inwoven with the lives of others, and contributing to form their characters for better or for worse. The characters of parents are thus constantly repeated in their children; and the acts of affection, discipline, industry and self-control, which they daily exemplify, live and act when all else which they may have learned through the ear has long been forgotten. Even the mute action and unconscious look of a parent may give a stamp to the character which is never effaced; and who can tell how much evil has been stayed by the thought of some good parent, whose memory their children may not sully by the commission of an unworthy deed, or the indulgence of an impure thought? The veriest trifles thus become of importance in influencing the characters of men. "A kiss from my mother," said West, "made me a painter." It is on the direction of such seeming trifles when children, that the future happiness and success of men mainly depend. Fowell Buxton, when occupying an eminent and influential station in life, wrote to his mother, "I constantly feel, especially in action and exertion for others, the effects of principles early implanted by you in my mind;" and Lord Langdale, looking back upon the admirable example in life set him by his mother, declared, "If the whole world were put into one scale, and my mother into the other, the world would kick the beam." Mrs. Schimmel Pennick, in her old age, was accustomed to call to mind the personal influence exercised by her mother upon the society amid which she moved. When she entered a room it had the effect of immediately raising the tone of the conversation, and as if purifying the moral atmosphere—all seeming to breathe more freely, and stand more erectly. "In her presence," says the daughter, "I became for the



time transformed into another person." So much does the moral health depend upon the moral atmosphere that is breathed, and so great is the influence daily exercised by parents over their children by living a life before their eyes, that perhaps the best system of parental instruction might be summed up in these two words: "Improve thy self."

There is something solemn and awful in the thought, that there is not an act nor thought in the life of a human being but carries with it a train of consequences, the end of which we may never trace. Not one but, to a certain extent, gives a color to our own life, and insensibly influences the lives of those about us. The good deed or thought will live, even though we may not see it fructify, but so will the bad; and no person is so insignificant as to be sure that his example will not do good on the one hand, or evil on the other. There is, indeed, an essence of immortality in the life of man, even in this world. No individual in the universe stands alone; he is a component part of a system of mutual dependencies; and by his several acts, he either increases or diminishes the sum of human good now and forever. As the present is rooted in the past, and the lives and examples of our forefathers still to a great extent influence us, so are we by our daily acts contributing to form the condition and character of the future. The living man is a fruit formed and ripened by the culture of all the foregoing centuries. Generations six thousand years deep stand behind us, each laying its hands upon its successor's shoulders, and the living generation continues the magnetic current of action and example destined to bind the remotest past with the most distant future. "No man's acts die utterly; and though his body may resolve into dust and air, his good or his bad deeds will still be bringing forth fruit after their kind, and influencing generations of men for all time to come. It is in this momentous and solemn fact that the great peril and responsibility of human existence lies.—*Smiles.*

*VALUE OF PERSEVERANCE.*

It is not accident, then, that helps a man in the world, but purpose and persistent industry. These make a man sharp to discern opportunities, and turn them to account. To the feeble, the sluggish and purposeless, the happiest opportunities avail nothing; they pass them by, seeing no meaning in them. But if we are prompt to seize and improve even the shortest intervals of possible action and effort, it is astonishing how much can be accomplished. Watt taught himself chemistry and mechanics while working at his trade of a mathematical instrument maker; and he availed himself of every opportunity to extend his knowledge of languages, literature and the principles of science. Stephenson taught himself arithmetic and mensuration while working as an engineman during the night shifts, and he studied mechanics during his spare hours at home, thus preparing himself for the great work of his life—the invention of the passenger locomotive. Dalton's industry was the habit of his life. He began in boyhood, for he taught a little village school when he was only about twelve years old, keeping the school in winter, and working upon his father's farm in summer. He would sometimes urge himself and companions to study by the stimulus of a bet, though bred a Quaker; and on one occasion, by his satisfactory solution of a problem, he in this way won as much as enabled him to buy a winter's store of candles. He went on indefatigably, making his meteorological observations until a day or two before he died, having made and recorded upward of 200,000 in the course of his life.

With perseverance, the very odds and ends of time may be worked up into results of the greatest value. An hour in every day withdrawn from frivolous pursuits would, if profitably employed, enable any man of ordinary capacity very shortly to master a complete science. It would make an ignorant man a well-informed man in ten years. We



must not allow the time to pass without yielding fruits, in the form of something learned worthy of being known, some good principle cultivated, or some good habit strengthened. Dr. Mason Good translated Lucretius while riding in his carriage in the streets of London, going his rounds among his patients. Dr. Darwin composed nearly all his works in the same way, while driving about in his "sulky" from house to house in the country, writing down his thoughts on little scraps of paper, which he carried about with him for the purpose. Hale wrote his "Contemplations" while traveling on circuit. Dr. Burney learned French and Italian while traveling on horseback from one musical pupil to another in the course of his profession. Kirke White learned Greek while walking to and from a lawyer's office; and we personally know a man of eminent position in a northern manufacturing town, who learned Latin and French while going messages as an errand-boy in the streets of Manchester.

Elihu Burritt attributed his first success in self-improvement, not to genius, which he disclaimed, but simply to the careful employment of those invaluable fragments of time, called "odd moments." While working and earning his living as a blacksmith, he mastered some eighteen ancient and modern languages, and twenty-two European dialects. Withal, he was exceedingly modest, and thought his achievements nothing extraordinary. Like another learned and wise man, of whom it was said that he could be silent in ten languages, Elihu Burritt could do the same in forty. "Those who have been acquainted with my character from my youth up," said he, writing to a friend, "will give me credit for sincerity, when I say that it never entered into my head to blazon forth any acquisition of my own. \* \* \* All that I have accomplished, or expect, or hope to accomplish has been and will be by that plodding, patient, persevering process of accretion which builds the ant-heap—particle by particle, thought by thought, fact by fact. And if ever I was



actuated by ambition, its highest and warmest aspiration reached no farther than the hope to set before the young men of my country, an example in employing those invaluable fragments of time called 'odd moments.'"

Daguesseau, one of the great Chancellors of France, by carefully working up his odd bits of time, wrote a bulky and able volume in the successive intervals of waiting for dinner; and Madame de Genlis composed several of her charming volumes while waiting for the princess to whom she gave her daily lessons. Jeremy Bentham in like manner disposed of his hours of labor and repose so that not a moment should be lost, the arrangement being determined on the principle that it is a calamity to lose the smallest portion of time. He lived and worked habitually under the practical consciousness that man's days are numbered, and that the night cometh when no man can work.

What a solemn and striking admonition to youth is that inscribed on the dial at All Souls, Oxford—" *peritunt et imputantur*"—the hours perish, and are laid to our charge; for time, like life, can never be recalled. Melancthon noted down the time lost by him, that he might thereby re-animate his industry and not lose an hour. An Italian scholar put over his door an inscription intimating that whosoever remained there, should join in his labors. "We are afraid," said some visitors to Baxter, "that we break in upon your time." "To be sure you do," replied the disturbed and blunt divine. Time was the estate out of which these great workers, and all other workers, carved a rich inheritance of thoughts and deeds for their successors.

The mere drudgery undergone by some men in carrying on their undertakings has been something extraordinary, but the drudgery they regarded as the price of success. Addison amassed as much as three folios of manuscript materials before he began his "Spectator." Newton wrote his "Chronology" fifteen times over before he was

satisfied with it; and Gibbon wrote out his "Memoir" nine times. Hale studied for many years at the rate of sixteen hours a day, and when wearied with the study of the law, he would recreate himself with philosophy and the study of the mathematics. Hume wrote thirteen hours a day while preparing his "History of England." Montesquieu, speaking of one part of his writings, said to a friend, "You will read it in a few hours; but I assure you it cost me so much labor that it has whitened my hair."

The practice of writing down thoughts and facts for the purpose of holding them fast, and preventing their escape into the dim region of forgetfulness, has been much resorted to by thoughtful and studious men. Lord Bacon left behind him many manuscripts, entitled "Sudden thoughts set down for use." Erskine made great extracts from Burke; and Eldon copied Coke upon Littleton twice over with his own hand, so that the book became, as it were, part of his own mind. The late Dr. Pye Smith, when apprenticed to his father as a book-binder, was accustomed to make copious memoranda of all the books he read, with extracts and criticisms. This indomitable industry in collecting materials distinguished him through life, his biographer describing him as "always at work, always in advance, always accumulating." These notebooks afterward proved, like Richter's "quarries," the great store-house from which he drew his illustrations.—*Smiles.*

### SELF-CULTURE.

Self-culture includes the education or training of all parts of a man's nature, the physical and moral, as well as the intellectual. Each must be developed, and yet each must yield something to satisfy the claims of the others. Cultivate the physical powers exclusively, and you have an athlete or a savage; the moral only, and you have an enthusiast or a maniac; the intellectual only, and you have

a diseased oddity, it may be a monster. It is only by wisely training all three together, that the complete man can be formed.

The ancients laid great stress on physical training, and a sound mind in a sound body was the end which they professed to aim at in their highest schools of culture. The Greek teachers were peripatetic, holding that young men should only learn what they could learn standing. The old English entertained a similar idea, embodied in the maxim, "The field in summer, the study in winter." Milton described himself as up and stirring early in the morning—"in winter, often ere the sound of any bell wakes man to labor or devotion; in summer, as oft with the bird that first rouses, or not much tardier, to read good authors, or to cause them to be read till the attention be ready, or memory have its full fraught; then, with clear and generous labor, preserving the body's health and hardiness, to render lightsome, clear, and not lumpish obedience to the mind, to the cause of religion, and our country's liberty." In his Tractate on Education, he recommends the physical exercise of fencing to young men, as calculated to "keep them healthy, nimble, strong, and well in breath, and also as the likeliest means to make them grow large and tall, and inspire them with a gallant and fearless courage," and he further urges that they should "be practiced in all the locks and grips of wrestling, wherein Englishmen were wont to excel."

In our day such exercises have somewhat fallen into disrepute, and education has become more exclusively mental, very much to the detriment of the bodily health. The brain is cultivated at the expense of the members, and the physical is usually found in an inverse ratio to the intellectual appetite. Hence, in this age of progress, we find too many stomachs weak as blotting-paper—hearts indicating "fatty degeneration"—unused, pithless hands, calveless legs and limp bodies, without any elastic spring in them. But it is not merely health that suffers



by neglect and disuse of the bodily organs. The mind itself grows sickly and distempered, the pursuit of knowledge itself is impeded, and manhood becomes withered, twisted, and stunted. It is, perhaps, to this neglect of physical exercise that we find among students so frequent a tendency toward discontent, unhappiness, inaction, and reverie, displaying itself in a premature contempt for real life, and disgust at the beaten tracks of men—a tendency which in England has been called Byronism, and in Germany Wertherism. Dr. Channing noted the same growth in America, which led him to make the remark that “too many of our young men grow up in a school of despair.” The only remedy for this green-sickness of youth is abundant physical exercise, action, work, and bodily occupation of any sort.—*Smiles.*

#### THE HUMAN TEMPERAMENTS.

For two thousand years the temperaments have been a subject of study with physicians and educated men, though but little progress had been made from the days of Hippocrates up to the present century. My friend, W. Byrd Powell, M. D., who has made this his study for over a quarter of a century, has kindly furnished me with the following description, which is not only interesting to the general reader, but should be thoroughly studied by every man, woman and child, as it embraces subjects of the greatest importance to our race :

Hitherto the importance of a knowledge of the temperaments was thought to be with exclusive reference to the practice of medicine, and that a knowledge of them is highly inservient in this relation, no one probably doubts, and hence it is much to be lamented that they are so little understood as they are by physicians generally.

But the great value of a knowledge of the temperaments is in relation to the institution of marriage, the most important known to our species, because a marriage contracted in contravention of their laws, is invariably

attended with either sterility, imbecile, epileptic or scrofulous children.

With reference to medical practice, a knowledge of the temperaments is of great importance to physicians only, and their knowledge should be more than descriptive, it should embrace a knowledge of their dynamic influence over the constitution; but with reference to marriage, it is the duty of every individual, without distinction of sex, to have a descriptive knowledge of them, and this can be achieved by every clever Miss or Master of ten summers.

As, with reference to the science of physiological marriage, a descriptive knowledge of the temperaments is, alone, requisite at present, therefore, I will confine myself to a description of them. With this introduction I proceed with my subject.

That system of the temperaments which I adopt, with one important modification, is known as the Hippocratic, in honor of its founder, Hippocrates, who lived in the fifth century before our era, and to the shame of the medical profession, the subject has been, comparatively, but little advanced since his time. Hippocrates treated of four conditions or temperaments, as being in their nature elementary, namely, the sanguine, the bilious, the lymphatic, and the melancholic. But the two latter are not strictly elementary.

What is temperament? As I prefer my own definition to any other I have seen, I will respond in the language of it. It is a *sui generis* mode of human life compatible with health and longevity.

#### *I.—The Sanguine Temperament.*

The altitude of the men of this class may be said to range between five feet ten inches and six feet four inches. The flesh is firm and strong. The locomotive movements are graceful, but not particularly supple. This temperament is further distinguished by light hair, fair skin and



grayish-blue eyes. The nose is rather large, and generally, to some extent, it is aquiline, but sometimes it is straight on the dorsum, or has the Roman form. In the females, generally, it has the Grecian form, straight on the dorsum, delicate in size, and beautifully formed. The lips close handsomely in both sexes, and are of medium thickness; the superior one is more full and prominent than the inferior.

FIG. 11.



EDWARD EVERETT.

When the men stand erectly, the occiput is on the same plane with the spinal column. Some genuine people, on the approach of old age, are very liable to become fat or obese; an illustration of this fact, I may add, that Gen. Scott has become so fat as to be greatly helpless.

Physiologists generally teach that red hair and a florid complexion indicate the highest

degree of this temperament; but this, I am sure, is an error.

NOTE.—Aristotle has stated it as a law that parties of the respective sexes having light hair, fair skin and blue eyes, should not marry, because sterility will be the result. This is satisfactory evidence to me that he knew as little about this subject as physiologists generally. Now the truth is, our species presents four temperaments which are respectively distinguished by light hair, fair skin and blue eyes, and yet, in constitution, they are very different. Consequently, some of the most fruitful and physiological marriages obtain among them. It is, however, a law, that when the respective parties to a marriage



are sanguine, sterility will be the result; and as an illustration of this law I may cite Washington and his wife, who respectively were sanguine and sterile.

## II.—The Bilious Temperament.

FIG. 12.



GUSTAVUS ADOLPHUS.

In this temperament the men, generally, are neither so tall nor heavy as those of the preceding temperament. The person and features of this variety of our species are angularly and harshly defined. Of this temperament we have two varieties; one is distinguished by black and coarse hair, darkly brown eyes, and a

dark or brownish complexion. The other variety is distinguished by red and coarse hair, a florid complexion and grayish-blue eyes—in this variety the skin, when excluded from the light, is very fair. In both of these varieties the skin is coarse on the breast, arms and legs of the men, and covered with coarse hair.

With this temperament, without distinction of variety, the forehead recedes and contracts laterally as it rises above the temples, and the brain in general is developed obliquely upwardly, and backwardly, the flesh is very firm, and the locomotion is quick and supple, but not graceful. The nose, usually, is above the average size, and very frequently aqueline in form, but occasionally it has the Roman form, and occasionally the Grecian; this last form is the most common to the females. The superior lip is more full or prominent than the inferior.

As I have stated in connection with the sanguine, so of this, there are in our species four dark complexioned temperaments. The bilious forms a compatible marriage with the opposite sex of either of the other three; but

when both of the parties to a marriage are bilious, sterility is the consequence; and as an illustration of this law I may cite Gen. Jackson and his wife, who, respectively, were bilious and without children.

### *III.—The Lymphatic Temperament.*

This temperament has no distinguishing complexion, it may be either fair or dark, some physiologists to the contrary notwithstanding. It is distinguished, however, by a large and globular head, fine hair, an exceedingly full habit of the body, which is soft or flabby, and so amorphous as to defy description, but imagine the skin of a short and corpulent man filled with water, and you will have a pretty fair idea of the external appearance of this constitution when fully developed. The cheeks are large and ponderous, the eyes have a sleepy appearance, the nose is pugged, the lips are thick, and the locomotive movements are slow and waddling.

Holland and China are the countries in which this temperament obtains its highest development. I think it very probable that no one of my readers will ever see in this country a fully developed individual of this class. This temperament, in combination with those of which I have treated, the sanguine and the bilious, forms combinations which are both various and numerous, and withal useful and reputable; although the lymphatic temperament is thought to be a disgusting sack of humors. Indeed I doubt whether the highest order of human genius can obtain without some participation of this constitution. This temperament, though never brilliant, will compare, favorably, with any other for a safe and practical judgment.

This temperament is very rarely, if ever, found highly developed, except in countries having a humid atmosphere.

### *IV.—The Encephalic Temperament.*

This temperament, like the preceding, has no distinguishing complexion; it is, however, distinguished by



a relatively large cerebrum and a small cerebellum, and consequently a feeble and tardy manifestation of all the vital functions. The thorax and abdomen are small and contracted, the muscles slender, stringy and flaccid, the locomotion faltering and dragging. The person is very spare, the neck long, the forehead is massive and superiorly expanded, the cheek bones sharp and prominent, the cheeks sunken and thin, the nose small, slender and recurved, the lips thin, the chin pointed, and the countenance is thoughtful or even gloomy. Representatives of this class are but rarely to be seen in any country. But in combination with the other temperaments very frequently obtains. People of this class feel and think profoundly but never powerfully.

Though this temperament may not be as disgusting as the lymphatic, yet it is as powerless, and in the abstract of as little use. People of this class are so liable to monomania that they are probably very rarely entirely exempt from it.

This temperament I discovered in 1852. The fourth temperament of the ancient physiologists, and denominated the Melancholic, is thought by modern physiologists to be a pathological rather than a physiological condition, and therefore discarded it. The condition presented by Professor Gregory, and denominated the nervous, is also thought to be pathological; at all events, it is not an elementary condition, but one that is not in all of the temperaments.

I am very confident that I have given this subject more observation and study than any other individual ever did, or even all others; and thus have become convinced that humanity is distinguished by four *sui generis* peculiarities of constitution, and that they are those I have described.

The discovery of the fact that certain constitutional conditions or temperaments are so incompatible as to render marriage very frequently sterile or productive of imbecile or scrofulous children, must render a knowledge of



the temperaments of paramount importance. If there be any who doubt that such discovery has been made, they have but to exercise a little observation to become convinced that the fact not only exists, but is most distinctively prevalent in all parts of our country. The signs of the times indicate that the time is not distant when public opinion will not tolerate professional ignorance of this subject. Medical students, therefore, who possess a laudable ambition and a prudent foresight, will include this subject in their professional studies, and be prepared to respond to the demands of the public.

*The Origin of Human Temperaments.*

This inquiry is not only interesting, but useful, inasmuch as married parties who are incompatible may frequently effect a compatibility by knowing how to do it, and those who are compatible may keep themselves so.

The four preceding or elementary temperaments do not probably comprise more than two per cent. of the population of any civilized country; the remaining ninety-eight per cent. consist of combinations of the four elementary ones. If, therefore, we understand the origin of these four physiological conditions of humanity then of course we shall understand the origin of their combinations, for it is assumed that no respectably intelligent person is entirely ignorant of the laws of reproduction.

For the sake of convenience and simplification in treating this subject, I divide the four elementary temperaments into two classes, which I respectively denominate the *vital* and the non-vital. The sanguine and the bilious temperaments constitute the first or vital class, and is so denominated because observation has forced upon me the conviction that without the agency of one or the other of them, there can be no transmission of life—no reproduction. The Lymphatic and the Encephalic temperaments constitute the non-vital class, and is so denominated because as frequently as I have found the parties to a mar-

riage to be, respectively, as much as two-thirds or more of these temperaments, as frequently have I found three-fourths of their children to have been dead-born, and the other fourth to have died within the first year of their existence respectively.

As I have found no cause to be productive of the sanguine or the bilious constitution, and as there can be no reproduction without the agency of one or the other of them, so I infer that they were originally founded in the constitution of humanity, and therefore primitive. But I am far from being sure that both of them had their origin in the same species of the race which I regard as a genus. The two constitutions are alike in but one respect, and that is, they are equally reproductive; they are unlike in their therapeutic relations, they are mentally unlike, and they are unlike in terrestrial relations. The sanguine being especially adapted to high latitudes and the bilious to the low. These facts strongly incline me to the opinion, that the sanguine and bilious temperaments had their origin in two different, but allied species of the genus *homo*. I am disposed to think that the sanguine condition had its origin with a truly white species, and which probably originated in Northern Asia, and that the bilious condition had probably its origin in or with the Iberian species, which, in the opinion of ethnologists, had its origin in Africa, and that the two species emigrating to more temperate climes, met and amalgamated, and that the present population of Europe and the United States descended from this amalgamation, and so thorough and extensive was this amalgamation that the resulting population had a medium adaptation, and, therefore, less adapted to either extreme of latitude.

Germany, perhaps more than any other country, furnishes an excess of the white species, and Spain of the dark. In Spain, more certainly, perhaps, than any where else, can still be found descendants of the Iberian species.

Physiologists have even regarded the lymphatic tem-



perament as being both elementary and primitive, but I can concede neither, for it is compound and secondary, having originated in causes which are incidental to civilization.

I assume, because universally conceded, that wealth results from civilization, and it is well known that ease, idleness and luxury result from wealth or a prosperous condition of society, and that these generate lymph in a vital constitution, but much more rapidly in a humid than an arid atmosphere. I have been an unceasing observer in this relation, for thirty-five years, and have known both sanguine and bilious men, who had given themselves up to ease, idleness, and their attendant indulgences, become, in a few years, very obviously, lymphatic. I do not mean an obese condition, but a lymphatic one, for to me the difference is unmistakable, but hitherto unobserved. With the obese condition the head does not change in either form or size; but with the lymphatic, as lymph accumulates in the brain, the skull loses its angularity and becomes more globular, and the cause of this difference is easily explained. The brain, equally with the body, becomes lymphatic or watery, but it does not with the body become obese. This lymphatic condition is very rapidly acquired by some people, particularly those on whom was entailed a lymphatic diathesis. A diathesis to this condition is entailable, and hence, when a people are prosperous, or in easy circumstances, this condition is not only produced, but rapidly multiplied.

With reference to mental activity and enterprise generally, the lymphatic condition is greatly preferable to the obese; the latter obtuses every faculty. Those physiologists err who attribute the supineness of some European potentates to their lymph; it is attributable to their obesity. Fat people are feeders, but the lymphatic are drinkers, and those who have a lymphatic diathesis, and desire to avoid a lymphatic repletion of the body, must reduce their fluid ingesta.



Some physiologist, name not remembered, has represented the Esquimaux as a lymphatic people; but this is an error of such magnitude that I am ashamed of it. A lymphatic man could not live in that country, he would freeze to death about as readily as any other sack of water. The Esquimaux are a fat people, and fat is an essential condition of animal life in that latitude. I have five crania of that people, and they are all very similar in form and size, and as angular as the crania of other savage people, and withal have the bilious form. If a lymphatic man were to emigrate to that country, and could obtain food enough, he would, as is common with the bear, have his lymph replaced by fat in six months, with the exception of the brain. Nevertheless, the obese and lymphatic conditions are but modifications of the same fundamental condition, as I infer from the fact that in marriage they may replace each other; fat replaces the lymph of the bear every year.

Finally, the lymphatic condition is not only secondary but adjunctive—a mere addition of lymph to a primitive condition—the sanguine or the bilious. It should be remembered that the mere presence of lymph does not constitute the lymphatic temperament—the lymphatic repletion must be so great as to obliterate all the indices of the fundamental condition, except the complexion. If the lymphatic repletion be on the bilious element or condition, the complexion will be dark; but if on the sanguine, fair. As the lymphatic repletion imparts no color, it is now explained why this temperament has no distinguishing complexion, and why individual cases may be either fair or dark.

The encephalic temperament, like the lymphatic, results from influences which are also incidental to civilization. Care, responsibility and mental activity, generally develop the cerebrum or larger brain, and sedentary habits or inactivity of the muscular or respiratory systems reduce the cerebellum or smaller brain, and thus the encephalic

condition results. I have observed sanguine and bilious men having responsible and sedentary positions in banking and commercial houses, to become considerably encephalic in, comparatively, a few years. I have never found this condition in primitive peoples, as our Indians. The necessity which their condition imposes on them for muscular and respiratory action, as hunters, maintains a high endowment of the cerebellum; and their relations to society and property are too few and feeble to develop the cerebrum. Hence, that life which distinguishes the wild horse, the buffalo and the lion, about equally distinguishes man in his primitive condition. Furthermore, the encephalic temperament does not obtain with our frontier population except by emigration and entail.

As a mere increase of one portion of the brain to the neglect of another can produce no modification of the complexion, the fact is explained why this temperament has no diagnostic complexion. Nevertheless, it is sometimes fair and sometimes dark, but this circumstance is referable to the fundamental element which is sometimes sanguine and sometimes bilious.

As the lymphatic and encephalic temperaments are founded on either the sanguine or the bilious, it follows that neither of them is an exclusively elementary condition. But as the lymphatic has always been so esteemed, and as the encephalic is equally entitled to the same estimation, and as both of them, in their respective combinations with other conditions, obey the elementary law, and as this estimation of them promotes simplicity in their application, I deem it best to nominally regard them as elementary conditions; for, at most, it matters but little how they are nominated, provided we understand them. But for the vital condition that underlies these temperaments respectively, married parties of them could not procreate; and as it is, their procreations are invariably dead-born, imbecile, or die in infancy of scrofulous forms of disease.



The vital element on which these conditions are respectively founded is but feebly developed in them; hence the lymphatic and encephalic constitutions are greatly powerless both mentally and physically, and yet they greatly promote civilization by combining with the vital temperaments, provided they do not enter too extensively into the compounds.

Although I have no authority for the preceding views on origin of the temperaments, yet I am confident that they correctly represent nature, and, therefore, I respectfully submit them to the observation of my readers.

#### *The Compound Temperaments.*

To the extent of my information, I am the first and only pioneer in this department of the subject. Some physiologists have thought it to be a very useless waste of time and labor to treat of those constitutional conditions which result from the combination of two or more of the preceding or elementary temperaments. The interest the subject promised led me into this investigation thirty-five years ago. I do not remember that I promised myself any ultimate advantage from the investigation, nor could I anticipate any that would be likely to result from it. But if I have not been remunerated for the toil and time thus expended, my species has by the discovery of the hitherto unsuspected truth, that the most physiological and healthy parties of our respective sexes are, very frequently, in the marriage relation, so physiologically incompatible as to be sterile, or entail on their progeny mental imbecility or a scrofulous diathesis. I do not regard this as the greatest discovery ever made in human physiology, but it is confessedly the most important.

In the mass of the population of any country, those having an elementary temperament are exceedingly few—so few as not to produce one per cent. of the incompatible marriages. Hence, as ninety-nine per centum of those marriages which are productive of sterility, imbecility and



scrofulous constitutions, result from the compound temperaments, it follows that an effort, at least, should be made to distinguish the compound temperaments. Indeed, the happiness of society, the strength and prosperity of States, and the perpetuity of the species demand it. In this relation I can assure my readers that the subject involves no more difficulty than is attached to the elementary temperaments. It is true that an attempt to treat of every conceivable combination of the temperaments, would be a fruitless task, but the science of physiological marriage makes no such demand; it only demands that we shall be able to distinguish the binary, ternary, and quarternary combinations, and to this extent the subject is as the descriptive department of any portion of natural history. But our old and fossilized medical minds think the subject to be so occult as to render it about impossible for any one to diagnose the compound temperaments even to the above extent, and hence their astonishment at seeing me do it by an inspection of denuded crania.

**THE BINARILY COMPOUND TEMPERAMENTS.**—These are those which consist of a union in the same constitution of two of the elementary temperaments.

5. **THE SANGUINELY BILIOUS TEMPERAMENT.**—This temperament is of equal value with the sanguine or the bilious with reference to the reproductive function of the species, and may therefore be compatibly substituted for either of them. *A priori*, it would be reasonable to infer that this compound might and would more likely than otherwise result from a sanguine and a bilious progenitor; but this, I think, is never the fact, but if it ever be, the progeny never lives to be old enough to evidence the fact; the cause, no doubt, is this: the sanguine and bilious temperaments are incompatible in marriage. This temperament results, therefore, from other progenitors between whom the two elements obtain compatibly.

dorsum, or aquiline, the lips are usually less than the average in thickness.

The bilious element frequently so predominates as to render the hair of crow blackness and the eyes of a deep blue. On the other hand the sanguine element frequently so predominates as to bring the hair to a very light brown. When the bilious element is of the xanthous variety, the above indices are modified, the degree of darkness of the hair will be replaced by a corresponding degree of redness, the eyes will be brighter and the complexion more florid.

The respective components of this temperament unite in all conceivable proportions respectively, and yet all the combinations of those constituents are equivalent with reference to marriage.

NOTE.—With reference to the science of marriage, and it is my present object, it is necessary to treat of the temperaments as far as relates to their visible appearance. But if I were treating of them with reference to medical practice, then it would be requisite to indicate their dynamic influence, respectively, over the constitution. And if I were treating the subject with reference to mental philosophy it would be requisite to indicate their dynamic influence respectively, over the mental manifestations. In this treatise, therefore, I will confine my pen to the first object, not only because it is of the most importance, but because it is at present my only purpose, and for more than this I have neither the time nor the inclination at present.

6. THE SANGUINE-LYMPHATIC TEMPERAMENT.—This temperament is distinguished by light hair, fair skin and lightly grayish blue eyes, the temples are broad and full, the head is considerably globular, less than the average in its occipito-frontal diameter and greater in its lateral. The person is broad and full, the flesh rather soft, the forehead is broad but not particularly elevated, the nose has less than the average length, is straight on the dor-



FIG. 14.



DANIEL DEFOE.

sum, but is occasionally a little aquiline, and occasionally a little pugged, or recurved. The lips are of more than usual thickness. The great fairness and translucent delicacy of the skin of the young women of this class render them particularly handsome. I have not seen a well-defined representative of this temperament in the western or south-western country, but they numerous obtain in Maryland and Pennsylvania. It is proper to add that the forehead has more breadth at the brow or from temple to temple than it has at two-thirds of its elevation. Representatives of this class never, perhaps, reach an altitude of six feet; an altitude of five feet seven or eight inches is usual with the men. I have seen them five feet ten inches. The locomotion of this class is more or less waddling.



FIG. 15.



BISHOP DOANE.

7. THE SANGUINELY-ENCEPHALIC TEMPERAMENT.—This temperament is distinguished by light and rather fine hair, lightly grayish blue eyes and fair skin. The person is spare, the muscles are more or less flaccid, the altitude of the person is usually four feet eight or ten inches, but occasionally it reaches six feet two or three inches. The head is of average size and most generally flattened on the sides. The forehead is more than usually vertical, and has also more than usual elevation, and at the elevation of about two-thirds of its altitude it is more full and broad than at the temples. Of all the compound temperaments this is probably the most feeble, physically.

FIG. 16.



THOMAS NELSON.

8. THE BILIOUSLY-LYMPHATIC TEMPERAMENT.—This temperament is usually distinguished by brown and rather fine hair, brown eyes and a rather dark complexion. The habit of the body is full, the flesh considerably soft. The head is considerably globular, the nose is usually straight on the dorsum, but oc-

asionally it is pugged, recurved or aquiline, the lips are more than of average thickness. In health the complexion is enriched by a glow of the rose. Many of the brunette beauties of southern climes are of this temperament. The forehead is broad at the temples but becomes less so as it ascends. When the bilious element is of the xanthous variety, instead of the brown color of the hair, the color will be yellow or some shade of red, and the complexion florid and the eyes a light gray. As to altitude this class is similar to the sanguine-lymphatic, but I have seen it more than six feet.

9. THE BILIOUSLY-ENCEPHALIC TEMPERAMENT.—This temperament is usually distinguished by brown and rather fine hair, brown eyes and a dark or bilious complexion. The person is spare, the flesh of tolerable firmness, the altitude of the person ranges from five feet eight inches to six feet. The head has usually a little more than average size and usually flattened on the sides with depressed temples. The forehead is elevated and has usually more breadth at two-thirds of altitude than at the temples; that is, it is superiorly expanded and inferiorly contracted. Some of

FIG. 17.



PROFESSOR POWELL.

the brunette beauties of southern climes are also of this constitution. In this class the nose is usually straight on the dorsum, but occasionally it is aquiline, and the lips are of moderate thickness. When the bilious temperament in this compound is of the florid variety the complexion is changed, as with the preceding or bilious-lymphatic temperament.

NOTE.—It may be useful to remark here that the presence of the encephalic temperament, in all of its combinations, is indicated by an expansion of the superior third of the forehead; and in proportion to the extent of its presence, will there be a fullness in the manifestation of the vital functions.



**TERNARILY COMPOUND TEMPERAMENTS.**—This class comprises four species, and their respective varieties are infinite or as nearly so as the human mind can conceive. These species are respectively compounded of three of the elementary temperaments. I do not deem it necessary to the science of physiological marriage to treat of more than one variety of each species, viz: that variety in which the compounding elements are respectively about equal. To this extent it is indispensable that everybody who aspires to a practical acquaintance with the science of physiological marriage should be familiar with the temperaments.

FIG. 18.



STEPHEN A. DOUGLAS.

**10. THE SANGUINE-BILIOUS LYMPHATIC TEMPERAMENT.**—This temperament is distinguished by a full habit of the body; the head is, usually, a little above the average size, but more particularly in its inferior or basilar portion, the hair is brown and coarse, the eyes are darkly bluish gray, the skin, where exposed to the light has, to some extent, a tan

color, but otherwise is very fair. The nose is of ample size and occasionally has the Roman form, but most generally it is Roman-pugged. The forehead is broad at the base but gradually becomes more narrow as it rises, the cheeks are ponderous and the lips thick. This species, I think, never produced a beautiful woman, and yet in this species many very fine looking representations of humanity, of both sexes, are to be seen. When the bilious element of this compound is of xanthous variety, the hair is yellowish red or sandy, complexion florid, and the eyes brightly bluish gray, and this is true of all the combina-

FIG. 19.



J G SPURZHEIM, M D

tions with the bilious when it is of the florid variety, and this fact should be remembered.

FIG. 20.



JOHN BELL.

11. THE SANGUINE-BILIOUS-ENCEPHALIC TEMPERAMENT.—The complexion of the hair, eyes and skin of this temperament is precisely that of the preceding, and that of both is the same as that of the sanguine-bilious temperament. This temperament can be confounded, only, with the sanguine-bilious, and such a mistake might result in serious mischief;

contracted; but with the sanguine-bilious-encephalo-lymphatic, the forehead is superiorly expanded. This temperament is, therefore, more highly endowed with mind than the other. There is another marked difference. This is occasionally productive of a beautiful woman, and, in both sexes, the highest order of human capacity; and, as illustrations of this fact, I may cite the first and third Napoleons, and also the beautiful and gifted Miss Harriet E. Hosmer.

### ***THE SCIENCE OF PHYSIOLOGICAL MARRIAGE.***

The human temperaments are the elements of this science, and having treated of them to the extent demanded by their relation to this subject, I proceed to their application.

I divide the elementary temperaments into two classes, the *vital* and the *non-vital*; the former embraces the sanguine and the bilious temperaments, and is so denominated because observation has forced upon me the conviction that without the agency of one or the other of them, there can be no transmission of life. The latter embraces the lymphatic and the encephalic temperaments; and is so denominated, because, as frequently as I have observed the respective parties to a marriage to be as much as two-thirds of these temperaments, so frequently were three-fourths of their children dead-born, and the other fourth did not, respectively, live one year; and this I hold to be a law in this relation.

This science resulted from a discovery which I made in 1844, namely, constitutional similitude between the respective sexes of our species renders them incompatible in relation to the procreative function, causing sterility, or an entailment of a scrofulous diathesis on their children, imbecility, blindness, deafness, or some other abnormal condition.

Regarding the reproductive function as the most important incidental to the race, my reflections on this dis-



covery, and the fact that the evils above-named do obtain very frequently from the constitutional similitude of the sexes, forced upon me the inference that the discovery of the physiological laws of marriage and their indices, would constitute the most important discovery ever announced to man, because it involves not only the perpetuity of the human species, but all the human capacities for either usefulness or the enjoyment of life.

The fundamental fact of this science, the one from which it resulted, I discovered in two days by a methodical course of observation, thus: In 1844, I was traveling in the State of Mississippi, and met with a married couple who were as physiologically sound and healthy as any couple I ever saw; they were very comfortable livers, and in a very healthy district of country. They had six children, of which three had died of scrofulous forms of disease, and the remaining three were fated to die in the same way in a few months.

The physician of this family, who had known them for many years, could form no conception of the cause of the scrofula of their children; there was no consanguinity between them, their respective progenitors were yet living and in good health, and were very confident that scrofula in no form had ever been an heir loom in their respective ancestors. Finding no cause for the scrofula of these children, I was forced to the suspicion that the remote cause was some constitutional peculiarity of the parents; and if it were, I thought it might be discovered by a sufficiently extensive course of observation upon parents and children, and I resolved to make the discovery if possible.

As a preparation for such an effort, I may remark, that at this time I was, probably, more practically familiar with the human temperaments than any other physician is or ever was. The temperament of these parents was, respectively, sanguine bilious-lymphatic. I made a memorandum of this family. My observations were confined to

those families on whom I called for the accommodations incidental to travel. I took them as they came; the second was at my dinner hour; the parties were respectively bilious encephalic, sound and healthy, had three children, one was imbecile, the other two scrofulous; the parties were not consanguine. The third family I saw in the evening, when halting for the night. The husband was sanguine bilious, the wife bilious lymphatic. They were sound and healthy, had seven children, and all of them had a sound and viable appearance.

The fourth family I saw the next morning at breakfast. These parties were, respectively, sanguine encephalic and healthy; had had seven children, but all of them died in infancy, of scrofulous forms of disease.

The fifth family I saw when I halted for dinner. The husband was bilious and the wife was sanguine bilious lymphatic. Both were healthy, and had three promising children, and had lost none.

The sixth I observed when I halted for the night. The host was sanguine bilious lymphatic, and the hostess was sanguine bilious encephalic; they had had six children, but all of them died in infancy, of scrofulous forms of disease. When I halted the next morning for breakfast, I observed the seventh family. These parties were, respectively, bilious encephalic, healthy; had been married more than twenty years, but had had no children. I had now made seven observations, and, upon generalizing them, I found that between the first, second, fourth, sixth and seventh parties, respectively, there was a strongly indicated similitude of constitution, and they, respectively, had been progenitally unfortunate. That between the third and fifth parties, respectively, there was a strongly indicated dissimilitude of constitution, and that they had been progenitally very fortunate.

To the extent that seven cases could warrant an inference, it must, of necessity, be that constitutional similitude between the respective sexes renders them incompat-



ible with reference to the reproductive function; and the observation of many hundreds of cases during a period of eighteen years, has thoroughly sustained this inference. And although this fundamental principle was discovered in forty-eight hours after I resolved to discover the remote cause of the scrofulous diathesis; yet it has required of me eighteen years of observation and study to reduce it to an availably practical science. A practical knowledge of this science, which has cost me eighteen years of toil, can be acquired by any intelligent lady or gentleman in less than a month.

The fundamental principle of this science appears to be founded in an instinct of humanity, which is made manifest by the fact that when people seek a matrimonial alliance, they prefer the complement of themselves respectively—at least a contrast. This science does not oppose our instincts, but guides them. The laws of this science are few and simple.

**LAW I.** When the constitutional similitude of the respective sexes is such that a qualified observer can not detect an appreciable difference, sterility will be the result of their marriage. *Illustration:* Washington and his wife were, respectively, sanguine, and it is known that sterility was the result. Between General Jackson and his wife there was a nominal difference of constitution; he was bilious sanguine, and she was bilious: nevertheless they were physically the same, both being exclusively vital, and it is known that sterility was the result. The first Napoleon and Josephine were, in person, greatly different, and in constitution they were nominally as different, and yet there was no physiological difference. He was sanguine encephalo-bilious lymphatic, and she was bilious encephalic; consequently they were, respectively, compounded of equal varieties of vital and non-vital conditions, and it is known that sterility was the result of their alliance.

**LAW II.** When the constitutional similitude of the re-



spective sexes is less than complete, or is appreciably different, progeny will result, but it will be dead-born, imbecile, scrofulous, deaf, blind, or in some otherwise imperfect. *Illustration* : I can furnish three hundred examples of this law, but as they are not historically known, they would be of no value in this relation. I can cite one, however, which is historically known, viz : the first Napoleon and his second wife. Her temperament was bilious encephalo-sanguine, and his temperament I have indicated. There was between them an appreciable difference of constitution, and the result of this difference was one son ; but the difference was too small to secure to him a normal viability, for he died of a scrofulous affection of the lungs, at the age of eighteen years. It is most indisputably the fact, that a considerable difference of constitution must obtain between the respective parties to a marriage, to secure to offspring a soundly viable constitution. To discover the least difference consistent with a physiological marriage was indispensable, but before discovering this the conviction became forced upon me that my discovery could not become of general utility without the discovery of a law of universal application. By a great amount of observation and study, I succeeded in discovering the desired law, and it is of easy application, and will universally secure a physiologically legitimate offspring, and the greatest possible happiness to the parents. Those, therefore, who make domestic happiness, and a really useful progeny, conditions of marriage, must observe the following law :

**LAW III.** One of the parties must be exclusively vital—that is, must be either sanguine, bilious, or sanguine-bilious (the last being a compound of the two former, is also vital), and the other party must as certainly be more or less non-vital, that is, more or less lymphatic or encephalic. All marriages, in contravention of this law, are physiologically incestuous, and the consequences will be vicious in proportion to the delinquency.

LAW IV. The greatest dissimilitude of constitution that can obtain between the sexes, when they are respectively of the same species, is that which obtains between a vital and a non-vital temperament—and this is the most favorable to progeny. But marriages of this character are greatly impracticable in any country. It is a very remarkable fact in the physiology of human procreation, that a high degree of constitutional dissimilitude is about equally unfavorable to progeny. It has been seen that a high degree of similitude entails a scrofulous diathesis, and a high degree of dissimilitude, as when one party is white and the other negro, the progeny is invariably scrofulous, I believe.

The preceding exposition of the science of physiological marriage is amply sufficient to enable any physician to make a practical application of it to all parties of the respective sexes who are even tolerably well defined, provided he be as well informed in relation to the temperaments as any clever Miss of ten summers can become in two hours. I greatly regret to add that my observation for thirty-five years has induced me to believe that not two per cent. of our physicians are so well informed in this relation. I strongly suspect that it is this ignorance and consequent inability to judge of this discovery, that induces my professional brethren generally to denounce it as a vain pretension, and myself as humbug, but more particularly the old fogies. But when has it been otherwise? Did they not similarly treat mesmerism, phrenology, the discovery of the sanguiferous circulation, and vaccination? I can not avoid regarding it as disgraceful, that those who should lead in the investigation of all discoveries embraced by the medical sciences, should very generally continue in the rear till driven forward by public opinion, or the want of bread and butter.

It is exceedingly cheering to find an exception to this professional stupidity or laziness. I have found one, and the fact is an oasis in the barren waste of professional



fogyism. E. H. Dixon, M. D., one of the most accomplished physicians and surgeons known to the profession, as soon as informed of this discovery, subjected it to the test of observation, and not only found it to be true, but, in the January number of the New York Scalpel, for 1859, he presents the evidence of its verity which he had observed, and in conclusion says: "Dr. Powell presents a claim to the gratitude of the race by the announcement of this great discovery, that will be acknowledged long after his memory only will be cherished, as the discoverer of the most important truth ever announced in physiological science."

As this is a discovery about which no properly-constituted member of society, male or female, can feel indifferently, I think it proper to present a few illustrations of its practical applicability:

CASE I. In 1860, a young lady in Wisconsin sent me through the mail a photograph of herself and of her affianced, and solicited my opinion in relation to their physiological compatibility. I informed her that he and she were incompatible, and that if she were unwilling to become the mother of imbecile and scrofulous children, not to marry him. She submitted my letter to the perusal of her physician, a foggy. After reading it, he said to her: "Miss, your correspondent is a presumptuous d——d fool, for how can he, better than any one else, tell what a child will be before he sees it?" A wise doctor! She did not adopt my counsel, but married the gentleman, and in due time became a mother, and then informed me that her physician said, "my babe is an idiot; it may be so, I can't judge of it yet, it is too young." The physician could not judge of it even after he saw it, for I am confident that these parties could not produce an idiot. Her babe must have been an imbecile.

CASE II. In 1861, a lady called on me, from a neighboring State, with a daguerreotype of her husband, and requested my opinion of her marriage. I responded, "It



has been unfortunate, for if you have had children, which is barely probable, they were either imbecile, died in infancy of hydrocephalus, or of a scrofulous variety of brain fever." She rejoined, "I have had three children; the first is living, but my physician and the neighbors say that he is an idiot, but you said imbecile; what, if you please, sir, is the difference?" I explained. She rejoined, "Then, sir, he is an imbecile and not an idiot." She resumed, "Have I nothing better to hope for from my marriage than I have had?" I responded, "Nothing, I think, madam, unless you would prefer sterility, of which there is a probability.

CASE III. In 1862, a legal gentleman from the interior of Kentucky called on me with a daguerreotype of his wife, and said, "Professor, I have learned that you have made a great discovery in physiology; that if you see a married couple or their portraits you can tell whether they are fit for progenitors or not; is it true, sir?" I responded, "It is, sir." He answered, "I have always thought it to be reasonable to suppose that humanity possesses the elements of the science of its most essential function, but not having learned through the literature of the day that such a science had ever been imagined as being possible, and much less as having been discovered and developed into a practical science, consequently I was not prepared to believe the information I had of you; and therefore consulted my physicians about it; they thought your pretensions to be an impossibility and you a humbug. But, sir, as I had business here I concluded to bring my wife's daguerreotype with me and try you, provided you permit such trials. I rejoined, "I do, sir, and am pleased to have them, because they furnish me additional facts." He rejoined, "Well, sir, are my wife and I fit for progenitors?" I responded, "As you and she have the indices of sound constitutions and good health, it is my opinion that you are, in the abstract, favorably constituted for progenitors, but in relation to each other you are not." He

rejoined, "Why not?" I answered, "Because your constitutions are incompatible, which causes a scrofulous constitution to be entailed on your children, a majority of which will probably die of scrofulous forms of disease before attaining the age of puberty, respectively, and the others will not, I think, live to the age of thirty-five years, respectively, but will die of consumption."

He continued, "I am satisfied, sir, that you are a master of the most important science ever addressed to the consideration of man. My wife, sir, has brought me sixteen children, and nine of them died of scrofulous diseases, under the age of puberty. Of my living children the oldest is in his thirtieth year, and his physician informs me that he is in the forming stage of consumption, and hence, there is a strong probability that your opinion will be fully verified." He continued, "My physicians insist that scrofula must at some time have been in the family of either my wife or myself, but I have never believed it; what, if you please, is your opinion?" I responded, "Your physicians may possibly have been correct, sir, but I can not conceive any necessity for it, because the physiological incompatibility that obtains between you and your wife satisfactorily explains the loss of your children by scrofula." He rejoined, "As you know nothing of my family in any relation, beyond what you can infer from seeing me and the daguerreotype of my wife, and yet have manifested a clear understanding of the consequences of our marriage, I can not doubt that your opinion is entirely worthy of my confidence. Do physicians generally understand this subject?" I responded, "They do not, nor is there any probability that they will pay any attention to it till I have been dead half a century. They must, at least, be permitted to denounce me as a humbug while I live, and the application of my discovery an impossibility." He resumed, "Suppose I had consulted you before I married, could you have given me the information you have given me?" I answered, "The same, sir."



He continued, "You have certainly made an incalculably important discovery, and as the people have a right to require of their physicians a knowledge of this subject, and as I am a member of the Legislature of this State, I will have the attention of our physicians directed to this subject. If their professional pride will not urge them to do it, the reduction of their bread and butter will—prevent them from collecting their fees by law."

CASE IV. A few months since, a married couple called on me; they appeared as rough and hardy as pig-iron, and desired my opinion as to what their "luck" in regard to children had been? I answered, "If you have had children, three-fourths of them were born dead, and the others lived but a few months, at most." The wife rejoined, "I have had seven children, and five of them were dead-born and the other two lived but a little while. These parties were sent to try me by an old foggy who knew them, and thought it impossible for me to indicate the consequences of their marriage. He was probably silly enough to suppose that I operated by guessing."

NOTE.—The parties to case 1 were respectively bilious-encephalic, case 2 were the same, case 3 one was bilious-lymphatic, and the other sanguine bilious-lymphatic, case 4 were respectively bilious encephalo-lymphatic.

Professional ignorance of the remote cause of the scrofulous diathesis caused it to be denominated the "opprobrium medicorum." Fortunately this epithet can no longer be cast at the profession, for I have discovered it—it is physiologically incompatible marriage. It did not operate extensively in our western country till within the preceding forty years, but the want of space does not permit me to furnish an explanation of this fact, for such it is, I doubt not. If the same cause shall continue to operate for another century as it did through the latter half of the preceding, our country will be as scrofulous as Holland. A scrofulous diathesis obtains now in at least five-sevenths of American society, and is increasing, and



the time is not remote when it will be almost impossible for any one to contract a physiological marriage.

Some of our States have by law prohibited the marriage of cousins. The least that can be said of this law is, it is founded in ignorance, for it is not known that consanguinity renders the sexes incompatible. They are occasionally incompatible, just as other parties are, and for the same cause. My observation teaches that when cousins are physiologically compatible their children are as promising as those of other physiological marriages.

#### VITAL TENACITY.

It has long been observed that some persons who seemingly had but little vitality, and of feeble appearance, would resist attacks of disease, and recover when there seemed but little hope, and live until they were worn out by age. Whilst others who seemed strong and healthy, and gave every promise of long life, would succumb to slight attacks of disease, having apparently no power to rally when assailed. I have been deceived in this way many times. Persons who it seemed to me could not possibly recover, and who had been given up by physicians and friends, would live, despite all adverse circumstances, and finally get well; whilst others who did not present any alarming symptoms, would die in spite of all that could be done for them.

We find some families remarkable for their vital tenacity and longevity, whilst others seemingly as healthy, die young. This is especially noticeable in children. In some families they will live in spite of the most adverse circumstances and severe diseases, whilst in others it is with the greatest difficulty they are raised, or they die in infancy. Physiologists have never been able to account for this, and up to a recent period, we have had no means of determining between these classes. Now, however, thanks to Dr. Powell's investigations, we are enabled to designate those of great and those of feeble vital tenacity.

He came to the conclusion from long continued observation that the size of the base of the brain was the index of vital tenacity; that when this was large the persons have great power to resist disease; and when small, that they would readily succumb to but slight affections. To determine this, we draw a line from the prominence of the *frontal bone* at the outer angle of the eye to the prominence at the posterior of the head on the *occipital bone*, as shown in the accompanying cuts. The space between this and the opening into the ear, (external auditory meatus,) determines the size of the base of the brain, and the amount of vital tenacity.

FIG. 23.



FIG. 24.



close to the opening of the ear; it measures but one-sixteenth of an inch, while in the former case it was a full inch.

When this space measures three-fourths of an inch and upward, the person has great vital tenacity, and will resist and recover from diseases, and live to an advanced age. Fig. 23 is the skull of a criminal named Loper, who was hung for murder. The line from A to B marks the exact point of measurement, and shows a very great vital tenacity. Fig. 24 represents the skull of a man who was about as old as the former, but who died of consumption. It will be observed that the line runs very

The first marked example of the truth of this discovery that came under my notice, was the case of my own child. She had been suffering from summer complaint for two months, and became so reduced in flesh and strength that no person supposed it possible she could live through the summer. I mentioned her case to Dr. Powell, and he desired that I should make the measurement and give him the result. I did so, telling him that there was full three-fourths of an inch between the line and the auditory meatus. He immediately remarked that I need not have the slightest fears for the child, as she would not only recover from this sickness, but would, in all probability, out-live either of her parents. She did recover, and is a strong, hearty girl, nine years of age. Since then I have applied the test frequently, and have not known it to fail.

A very marked example occurred in our College while Dr. Powell was lecturing to the classes. A healthy, vigorous young man called on the Doctor for his opinion in this respect. He advised him to live industriously and temperately in all respects, and to avoid unnecessary exposure at all seasons, for under no circumstances would he probably live to be an old man. A few days afterward his seat was vacant in the lecture room, and he was reported slightly ill—nothing serious—but in nine days he was dead. In another case he gave the same opinion. In a short time the person had an attack of measles, recovered, had a relapse, and died suddenly.

If this measurement proves reliable in all cases, as I doubt not it will, it will be of very great advantage, not only to the physician, but to the people. It is true, there are but few who would wish to know that their days were but few, but it would cause such persons to take better care of their health, and give them time to set their houses in order, while yet enjoying health.



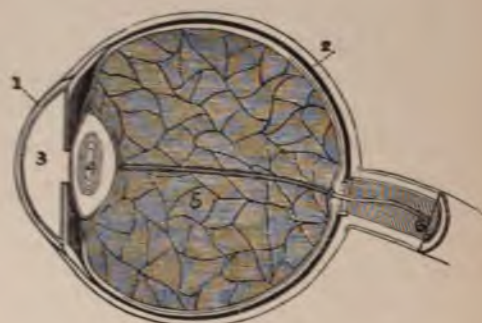
1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are given below each name. The list includes names such as Mr. J. H. Smith, Mr. W. B. Jones, and Mr. C. D. Brown, among others.

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the tears pass across the eye between it and the lid, to the internal junction of the lids, where they are received by two small canals, and conveyed to the lachrymal sac, which is just beneath the internal extremity of the lower lid, and from thence by the nasal duct to the nose. The tears are prevented from running over the eyelids by an oily secretion furnished by small glands along their edge.

FIG. 25



## SECTION OF THE EYE.

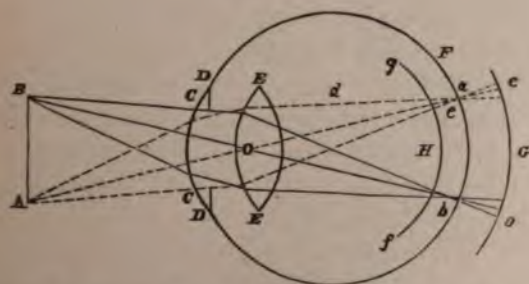
- 1, Cornea. 2, Sclerotic Coat. 3, Aqueous Humor. 4, Crystalline Lens  
5, Vitreous Humor. 6, Optic Nerve.

If we examine the eyeball removed from the orbit, of which Fig. 25 is a section, we will find that it is nearly spherical in form, consisting of an anterior third, clear and transparent, and a posterior two-thirds, white and opaque. The first is called the *cornea*, the second the *sclerotic coat*—and these form the first investment, or tunic of the eye, of which there are three. If, now, we open the eye, we will find a second coat, which only invests its posterior two-thirds. This coat is black, and is intended to absorb such rays of light as pass through the retina. The third coat is in immediate contact with this, and is formed by an expansion of the optic nerve, which pierces the eyeball behind. Passing across the eye, at the point

of junction between the cornea and sclerotica, and dividing it into two parts, is the iris, which has an opening in its center called the pupil, which admits light to the internal parts of the eye. The iris is partly composed of muscular fibers; hence the pupil dilates and contracts, to admit more or less light, as occasion requires. The central parts of the eye are filled with three humors—the aqueous humor, crystalline lens, and vitreous humor. The first is water, situated in the anterior part of the eye, covered by the cornea; the second is a double convex body, of considerable tenacity, situated immediately behind the pupil; and the third is a fatty-like transparent substance that fills the posterior part of the eye.

PHENOMENA OF VISION.—“The essential constituents of the optical apparatus of the eye may thus be enumerated: A nervous expansion, to receive and transmit to the brain the impression of light; certain refracting media for the purpose of so disposing of the rays of light traversing them as to throw a correct image of an external body on the retina; and a contractile diaphragm with a central aperture for regulating the quantity of light admitted to the eye.

FIG. 26.



“With the help of the subjoined diagram (Fig. 26), representing a vertical section of the eye from before, backwards, the mode in which, by means of the refracting media of the eye, an image of an object of sight is thrown



on the retina, may be rendered intelligible. The rays of the cones of light emitted by the points *A B*, and every other point of an object placed before the eye, are first refracted—that is, are bent toward the axis of the cone by the cornea *C C*, and the aqueous humor contained between it and the lens. The rays of each cone are again refracted, and bent still more toward its central ray, or axis, to the anterior surface of the lens *E E*; and again as they pass out through its posterior surface into the less dense medium of the vitreous humor. For a lens has the power of refracting, and causing the convergence of the rays of a cone of light, not only on their entrance from a rarer medium into its anterior convex surface, but also at their exit from its posterior convex surface into the rarer medium.

“In this manner the rays of the cones of light issuing from the points *A* and *B*, are again collected to points at *a* and *b*; and, if the retina *F* be situated at *a* and *b*, perfect, though reversed, images of the points *A* and *B*, will be perceived; but if the retina be not at *a* and *b*, but either before or behind that situation—for instance, at *H* or *G*—circular luminous spots, *c* and *f*, or *e* and *o*, instead of points, will be seen; for, at *H* the rays have not yet met, and at *G* they have already intersected each other, and are again diverging. The retina must, therefore, be situated at the proper focal distance from the lens, otherwise a defined image will not be formed; or, in other words, the rays emitted by a given point of the object will not be collected into a corresponding point of focus upon the retina.”—*Kirkes*.

Two deviations from normal vision may be noticed and have to be counteracted by the use of glasses, or artificial refractory media. *Myopia* or short sightedness is caused by anything, as undue convexity of the cornea, which increases the refracting power of the eye, and causes the image to be formed anterior to the object as at *H*; this defect is remedied by the use of concave glasses. *Presby-*

*opia*, or long sightedness is the reverse, and is caused by the flattening of the cornea, or other causes that would diminish the refracting power of the eye, and cause the image to be formed at a point behind the retina, or *G*; this defect is remedied by the use of convex glasses.

### *The Ear.*

The ear, or organ of hearing, is composed of three parts—the external, middle, and internal ear. The external ear is composed of a frame-work of cartilage attached to the bones of the side of the head, and covered by the skin; and a tube about three-fourths of an inch in length which passes inward. The configuration and position of the ear is such as to collect the waves of sound and transmit them inward. The passage to the middle ear is called the external auditory meatus, and is formed partly of bone and partly of cartilage, covered by the skin which is reflected inward. It is closed internally by a membrane which separates it from the middle ear—the *membrana tympani*.

FIG. 27.



THE EAR.

- 1, The External Ear. 2, Auditory Meatus.  
3, Middle Ear. 4, Internal Ear.

The meatus has numerous glands which secrete a peculiar yellowish, bitter, semi-fluid material called cerumen or ear-wax, and which serves to keep the structures soft and protect them from injury. The *middle ear* (drum of the ear,) is a small cavity not more than five-eighths of an inch in its longest diameter, and three-eighths in its smallest. It is lined by mucous membrane, and has but one communication with external parts,

and that is with the throat, through a passage called the eustachian tube. It contains three small bones articulated together, and moved by muscles, which form a communication between the membrana tympani, and the internal ear. The *internal ear* is excavated in solid bone, and consists of a series of cavities as represented in Fig. 27. In these cavities the minute fibrillæ of the auditory nerve are so placed in fluid, that the slightest vibration of air in the external ear, will, through the membrana tympani, and chain of bones, produce sensation of sound.

HEARING.—Sound is produced by the more or less rapid vibration of the particles of matter in which the sound is produced, and is propagated to the ear by the continued undulations of the medium through which it is transmitted, until they strike the membrane, closing the auditory meatus. "Sound is perceived when an impulse of a certain force and suddenness is mechanically given to matter in communication with the nerve of hearing. Such movements as the slow moving of a rod through the air, do not give rise to appreciable sound; hence a certain degree of force and suddenness is required, as instanced in the cracking of a whip. Although air is the usual medium through which sound is conveyed to the ear, any solid, liquid, or aeriform matter suffices for this purpose.

"When the impulse is single, or when one impulse follows another in very slow, irregular succession, the sound perceived is called *noise*; when they reach sixteen in a second, *continued sound* is produced; and when they succeed each other at regular intervals, and reach thirty-two in the same time, a *musical note* results. The pitch of a musical note ascends from grave to sharp, as the number of impulses or vibrations in a given time increases, and consequently as the breadth of the sonorous wave diminishes. Thus, if the lowest note of an octave is made up of thirty-two vibrations, each succeeding note will contain more, until the eighth octave will have twice as many.

"The waves of sound travel at an average rate of



nearly eleven hundred feet per second in air; four times faster through water, and from eight to seventeen times faster in solids. They diverge in all directions, and hence the intensity of a given sound decays in receding from its origin as the square of the distance increases."

The small bones of the ear, with the muscles attached to them, constitute an apparatus for listening. Thus, when the mind is directed to the ear, in the act of listening, these bones are acted on so as to render the membranes closing the outer and inner ears tense, when slight vibrations are conveyed to the nerve of hearing. On the contrary, the ear is protected from injury by intense sounds, as the firing of a cannon, by the power possessed by the individual, of causing a relaxation of those parts.

THE ORGAN OF SMELL.—We have already partially described the cavities of the nose, as a part of the respiratory passages; we have now to examine them as an organ of special sense. These cavities are quite extensive, extending from their anterior openings to the throat, and from the roof of the mouth upward to the superior portion of the external nose. These cavities are lined with mucous membrane; and to this the *olfactory*, or first pair of nerves are distributed in a similar manner to the nerves of the skin. How these nerves appreciate odorous bodies, is more than we are able to tell. They serve a very important purpose, however, in standing guard at the entrance of the air passages to protect the lungs and system against the ingress of any noxious matter.

THE ORGAN OF TASTE.—The tongue is supplied with a special nerve; the *gustatory*, which gives it the power to distinguish between various sapid substances. The mode of action of the substances which excite taste, probably consists in the production of a change in the internal condition of the gustatory nerves, and, according to the differences of these substances, an infinite variety of changes

of condition, and consequently of tastes, may be in solution. The matters to be tasted must either be in solution or soluble in the moisture covering the tongue; hence insoluble substances are usually tasteless, and produce sensations of touch.

**THE SENSE OF TOUCH.**—The sense of touch is not confined to a special organ, as is the case with the other senses, but is extended to the entire surface of the body. Some parts, however, possess it in a much higher degree than others, as is the case with the skin covering the palms of the hands and fingers, tongue, lips, &c. This results from the minute distribution of the nerves of sensation. The common sensation in the papillæ of the skin, sensation of touch, is most acute where these papillæ are most numerous and most highly developed.

## PART II.

### HYGIENE.

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Health is the greatest of human blessings, and its preservation should therefore engage the attention of every person. It is true that we attach the least value to those things that seem to be ours by right, as life, health and friends, and have less interest in their preservation than we have in the pursuit of objects of far less or no importance. Every person of sane mind values his life above all earthly things, and yet a majority seem to think that so far as death is concerned it is far distant from them. In like manner, though health is an inestimable blessing, it is not regarded until lost, very frequently by open disregard of its plainest laws.

"A sound mind in a sound body," was a Roman maxim two thousand years ago. Without strength of body, all social, intellectual, and moral virtues lose much of their value. Manners the most refined and dignified, mental qualities cultured and commanding, moral traits worthy of all praise and imitation, if associated with a feeble physical constitution, a frail and sickly body, though of high worth in themselves, are little better than useless as means for promoting the demanded improvement in human society. The will and the heart demand *strong arms* for the execution of their purposes.

No one, observant of human condition, can doubt the idea that feebleness of body is more general at the present day than it was half a century ago. This truth is so frequently affirmed, and so seldom disputed, that it de-



mands little of proof or argument in its support. And to such an extent has physical deterioration progressed, as justly to alarm every thoughtful mind, every philanthropic spirit. Few fathers, at the present day, deem themselves able to perform the labor and endure the hardship which they themselves performed and experienced thirty years ago. And scarce a mother can be found who does not know that her daughters are less strong and vigorous than she was in the days of her girlhood.

Miss Beecher, authoress of a valuable work upon physical education, says:

"The children of this country are every year becoming less and less healthful and good-looking. There is a great change in reference to this matter within the last forty years. In former times, the children in school-houses, or on Sunday in the churches, almost all of them had rosy cheeks, and looked full of health and spirits. But now, the children in churches and schools, both in city and country, a great portion of them either have sallow or pale complexions, or look delicate or partially misformed.

"The children of the former generation could go out in all weathers, were not harmed by wetting their feet, would play on the snow and ice for hours without cloaks or shawls, and never seem to be troubled with the cold. And the tender parents of these days would be shocked to see how little clothing was worn in the bitterest cold of winter.

"But now, though parents take far more pains to wrap up their little ones to save them from the cold and wet, the children grow less and less healthy every year. And it is rare to find a school-room full of such rosy-cheeked, strong, fine-looking children as were common thirty years ago.

"Every year more and more complaints are made of the poor health that is so very common among grown people, especially among women. And physicians say that this is an evil that is constantly increasing, so that

they fear, ere long, there will be no healthy women in the country.

"At the same time, among all classes of our land, we are constantly hearing of the superior health and activity of our ancestors. Their physical strength, and their power of labor and endurance, were altogether beyond any thing witnessed in the present generation.

"Travelers, when they go to other countries, especially when they visit England, whence our ancestors came, are struck with the contrast between the appearance of American women and those of other countries, in the matter of health. In this nation it is rare to see a married woman of thirty or forty, especially in the more wealthy classes, who retains the fullness of person and the freshness of complexion that mark good health. But in England, almost all the women are in the full perfection of womanhood at that period of life.

"Now, it is a fact, that the health of children depends very much on the health of their parents. Feeble and sickly fathers and mothers seldom have strong and healthy children. And when one parent is well and the other sickly, then a part of the children will be sickly and a part healthy.

"Thus, the more parents become unhealthy, the more feeble children will be born. And when these feeble children grow up and become parents, they will have a still more puny and degenerate offspring. So the case will go on, from bad to worse, with every generation. What then, if these things be true, are the prospects of this nation, unless some great and radical change is effected?"

Though these facts must be apparent to all, we notice but little effort on the part of our public instructors to bring the matter before the people in such a light as will arrest their attention. Every man, woman and child, in this country, should be instructed in the laws of their being, of the danger of violating the laws of life, and of



the certain consequences that will result to themselves or their offspring. A man may have the right to do many acts that produce but temporary injury, but he has no right to permanently impair his health, shorten his life, and especially to transmit enfeebled constitutions to his children. As he has no right to do this, it is his manifest duty to study hygiene for himself, and, so far as it is in his power, see that the rising generation is properly instructed. Harpers, of New York, have done much to improve the character of a common school education, by introducing readers, that, while they teach reading, also give such knowledge of nature and nature's laws as will prove of life-long service to the learner. May such books soon take the place of those vapid school books that have but the one idea—reading.

It is not valid reasoning to say that these matters pertain exclusively to the practice of medicine, and should not be meddled with by the people. A man's life is his own, his health is his own, and in the preservation of both he has more interest than any other person. The knowledge that should guide him is obtained without much difficulty, and the facts are so plain and easily understood that no one need go astray. While I thus advocate the diffusion of this knowledge among all classes, I do not wish to be understood as recommending that each person should be his own doctor, or that he should turn his entire attention to his body, watch himself live, and thus become a hypochondriac.

#### DWELLINGS.

The dwelling, or, as I much prefer to call it, the *home* of a family, has much to do with its health, both physical and moral. Of course, our habitations will vary with our means and tastes, or we may be forced by circumstances to occupy houses that are objectionable; still, a few plain rules may guide us if we have the power to select a residence.



In the country, other things being equal, the house should be built on ground that is sufficiently rolling to permit rapid surface drainage. If no such ground is found, make an artificial elevation. The reasons for such choice are obvious—it prevents dampness of the ground adjacent to the house, insures to some extent dryness of the walls, and gives better cellars. If the soil is naturally wet, especially if clay, money will be saved by putting in tile drains.

In both city and country, a house is healthier by having cellars under it, providing those cellars are kept dry, well ventilated and free from decaying vegetable or animal material. Damp cellars are fruitful sources of disease, and this is greatly increased by allowing the remains of vegetables to decompose within them. Numerous instances have come to my knowledge, where serious and long-continued sickness, and in some cases death, have resulted to one or more members of a family by neglect in these matters. To secure ventilation, the house should be elevated from one to two feet above the surface of the ground, and the windows so placed that the prevailing winds in spring and summer may blow through them. Dampness is best avoided by a drain passing to lower ground, but if this is impossible, have a well-hole dug in the center of the cellar, and filled with sand, being careful that it does not become a depository for the offal of the cellar. Weeds, grass and shrubbery are sometimes the cause of dampness; if so, cut them down, at least in such situations as will allow the sun to strike the walls with the greatest effect. Whitewashing cellar walls sometimes answers an excellent purpose in removing dampness and noxious effluvia.

Dampness of the walls of a house, whether it be stone, brick, or wood, renders a house unhealthy. It occurs most frequently upon tough clay ground, and when the house is not sufficiently elevated. In brick or stone houses, it may be prevented in every case by placing a

layer of sheet-iron in the cellar wall above ground, which prevents capillary passage of water upward. Whatever the material of which the walls are composed, they should be protected against absorption of moisture by painting; or, if this is too expensive, by whitewashing. In building a house, barn or stable, always have an over-jutting roof of from eighteen inches to two feet, as a protection to the walls of the house below. Many a good house is spoiled by the poorly-constructed eave-gutters, which are so shallow, or have such slight inclination, that the water does not run off freely. They are wet for a considerable time after a rain, and not unfrequently the wall is kept damp by overflow.

As regards the internal arrangement of a dwelling, we have but little to say in this place. Of paramount importance is it to have the rooms, in which the housework is done, on one floor, and water and wood handy. The mother has sufficient to do in the care and work of the house, and raising of a family, without having her vitality impaired by stairs or unnecessary work. The husband who does not pay attention to these matters, if he thinks at all, is a brute, and if he has not thought until this reaches his eyes, let him look around him and see how he may lighten the cares of his hard-worked wife.

If possible, every room in the house should have the windows and doors so arranged that the air can pass freely through, hinged transoms over the doors being very important for this purpose. Not only is it necessary to have a circulation of air, but, if possible, the living and sleeping rooms should be so placed that the sunlight will pass into them at some period of the day. Air loses, to some extent, its vital properties if not impressed by sunlight; and it is a fact well proved, that cachectic diseases of children, as scrofula, summer complaint, and finally consumption, are produced from neglect in these matters. Magendie proved conclusively, by numerous experiments, that rabbits, and other animals, would soon become tuber-



culous if confined in cellars or dark places; and that we might as well expect to raise vegetables in the dark, or away from sunlight, as healthy children. In the Paris hospitals it has been found necessary, in some cases, to have the patient conveyed out in the open air, as the only means of saving life.

#### *Defective Ventilation.*

Defective ventilation, or insufficient change of the air of dwellings, might be considered to readily suggest its proper remedy by the feeling of suffocation induced; but it is not such a deficiency of oxygen, or excess of carbonic acid, as induces a stifling sensation that does most harm; it is rather the scanty supply of fresh air that stints the vital processes without suddenly disturbing them; and the gradual accumulation of foul effluvia, that slowly poisons, without exciting alarm. Persons are gradually brought to endure without complaint the impure air of a close room, which, to any one entering it from the open atmosphere, seems quite suffocating. Thus, in the habitations of the poor, especially in densely-populated towns, it is not rare to find ten or fifteen crowded into one small room, without any other supply of air than that which comes through the floor or window, or when the door is accidentally open.

Insufficient ventilation is by no means confined to the dwellings of the poor. In modern days, when workmanship of houses is more complete than it was in olden times, there are no longer the latticed casements, chinky floors, ill-fitted doors, and, above all, the roaring pile in the spacious hearth, that supplied abundant ventilation to the houses of our forefathers. Now, in proportion as houses are "well built," every crevice is so thoroughly stopped that our rooms, when closed, are well nigh airtight, and their occupiers are inclosed in an atmosphere which is deteriorating in proportion to the number assembled. Add to this the vitiating effect of artificial lights



and of fires, the smoke of which may not freely escape for want of a due supply of air, and it will appear how modern houses often comprise the conditions calculated to produce this cause of disease. In public offices, schools, hospitals, churches, theaters, and other places where great numbers are collected together, the cause is still more fully in operation; and it is quite certain that not only is the public health much injured thereby, but much of the useful and agreeable objects of such assemblies is defeated through the discomfort produced by the closeness and foulness of the air.

The habitual want of pure air, especially, exercises an unfavorable influence on the state of the blood, and the functions of circulation and nutrition, causing pallidity of the surface, poorness of blood, imperfect development of the fibrous principle, which, instead of contributing to the nourishment of the muscles, degenerates into scrofulous or tuberculous matter, the deposition of which, in the internal organs or glands, is favored by the weakness of the circulation.

Fresh air is a cheap commodity, and one very easily obtained; all you have to do is to make an entrance for it. A large fire-place always gives good ventilation—in fact, is the best ventilator. If you use a stove, or a grate, fix the windows so you can lower the upper sash an inch or so. If the windows are on opposite sides of the room, you will have good ventilation, the cold air passing in at one and settling down to the floor, while the heated impure air will pass out at the other. If you have not windows, cut a hole in the wall—it is better to freeze a little, than to breathe impure air.

As we have previously noticed, an individual requires eight hundred cubic feet of air for normal respiration; and sleeping apartments should always be proportioned to this. Thus, a room eight feet square and ten feet in height should never contain but one person, unless it has very free communication with out-door air, or other very

large apartment. A room eight by sixteen feet, will give a sufficient supply of air to two persons, and one sixteen feet square will accommodate four.

Lastly, endeavor to beautify your homes with trees, shrubbery and flowers, as the best means of retaining a contented mind, without which, health can not be enjoyed, or in many cases retained. The earth is full of beauty, and we need but a restoration of that inward sense which takes cognizance of the good—the beautiful, to perceive it; this we can obtain only by cultivation. Make home beautiful; look at the homes of our country, how few come near the standard? In the country, a house situated in an open field, or on a barren hill-side—no trees, no shrubs, no flowers; externally all is dull, gloomy, desolate—a sacrifice to the god of mammon; how very often do we find the inside corresponding, and the hearts of the dwellers therein withering, drying up. We love our homes notwithstanding this—a merciful provision of the Almighty for our happiness. How much more should we love them if we could associate with them thoughts of beauty, of pleasant prospects, of the well-kept lawn, of the neat walks, the shade of trees, the budding flowers, the twining rose that almost curtains our windows, the honeysuckle trained on the old porch, shutting out the burning rays of the summer's sun, and perfuming the air with its fragrant odor. Such thoughts are recalled with pleasure throughout the journey of life, a green spot in the memory which nought can efface. Beautify your homes, then, if not from any delight you take in it, at least for your children's sake; to them it may prove of more service than your hoarded wealth, a constant safeguard against many of the sins of this untoward generation.

#### *CLOTHING.*

The acknowledged purpose of clothing, as a means of preserving the health, is to maintain as much as possible such an equal warmth of the surface and extremities of



the body, as may conduce to the comfort of the feelings, and promote a free circulation, with sufficient perspiration and innervation in all the external parts of the body. But the healthful action of clothing is not confined to its property of retaining warmth. It is useful also in protecting the body against the injurious influence of external heat, dryness, moisture and electricity; and varied modifications of the clothing will best answer these several ends under different circumstances.

The lower animals exhibit many interesting facts, showing instinctive or natural provisions for changes in their clothing to suit variations in season and weather, from some of which we may derive useful instruction. The change of coat in horses takes place in spring and autumn, and depends much on the character of the season; the thick winter coat being slow to come off in a cold spring, but soon changing in continued warm weather; so, likewise, cold weather in the autumn accelerates the thickening of this coat, which in horses left to nature we find abundantly provided *before* the severity of the weather is established. Sheep change their wool only once in the year; but its rapid increase before the winter sets in, and its tardiness in loosening and falling off, until June, when all the cold winds of the spring have passed by, afford useful suggestions as to the propriety of anticipating the cold by the protection of dress, and of patiently awaiting its subsidence before we remove that protection. Birds moult their feathers early in the autumn, at which period the new plumage thickens in down and feathery expansion as the winter sets in. In the spring, many of the downy feathers drop off, and are by many tribes appropriated to the lining of their nests; and through the summer the feathers continue to get thinner until the moulting season, when all give place to the new plumage.

It is now generally admitted that woolen underclothing, at least during eight months of the year, is conducive to health. The low conducting power of woolen goods,



a mother, especially a *young* mother, with her child but half clad, its arms, breast and part of its legs exposed, when she is warmly encased in woollens and furs. Such mothers should not be surprised that their children die early, or that their constitutions are impaired for life, and learn that it is the height of impiety to attribute it to the dispensations of Providence.

"Under particular circumstances or conditions of the system, additional warm clothing is necessary; for instance, in infancy when the calorific power is low; in old age; in convalescence from acute diseases; during fatigue and other states of weakness; in organic diseases of the heart, when the circulation is feeble; in cases of privation of food; during the operation of purgatives or diaphoretic medicines; and when circumstances prevent the use of a proper amount of exercise. Under the influence of these conditions, a feeling of chilliness arises, particularly on the surface and in the extremities; and this is an indication of the need of more clothing; and if this be put on to prevent the sensations of cold, it will often counteract such disturbances of the circulation and internal congestions as the weakened body is liable to at the time, which too often lay the foundation of future disease."

*Fashions* are to be disregarded only when they conflict with comfort or health. All desire to look well and dress well, and the desire is laudable. The old fashion of tight lacing and stays was most abominable, not only for the discomfort that it must have induced, but also for the serious injury to the health. Respiration is of absolute importance to life and health, and in proportion as it is impaired, the health suffers, and life is shortened. No woman, with tightly-laced stays, could breathe freely, and in many cases only the upper parts of the lungs could be used. Hoops were advantageous, inasmuch as they took the place of the immense weight of skirts which before were used to give size, and which, hung upon the hips,

the patient. A very good rule to follow, is, to eat until you feel the first sensations of having sufficient for the wants of the system, but never until you have lost your appetite, or until the taste is no longer pleasurable.

### FRUIT.

Nothing promotes health of body and mind more than plenty of ripe fruit during the summer and fall; and yet how many do we find living in the country, with plenty of ground to spare, who do not raise enough of any one kind for home consumption. It requires some labor to set out trees and vines; but when once started, they are but little trouble, and repay a hundred fold for the time and labor expended. Again, all this may be done at times when but little else could be accomplished. For instance: the farmer, who complains so much about "want of time" to set out fruit trees, by investing five dollars in apple, pear, peach, and cherry trees, and in grape, raspberry, and strawberry vines, either in fall or spring, when business calls him near a nursery, taking them home, putting them in the cellar, carefully covering the roots with earth, will have a stock to commence with. Then devote odd time to setting them out, if no other place can be found, in the fence corners; and in the space of two or three weeks they will all be planted and ready to grow. Continue this plan for two or three years, and he will have fruit enough, and of the best kind, to supply his family. Continued ten years, and if near a railroad or river, the fruit crop will pay in silver dollars double the amount which by any other means could be obtained from the farm. No farmer should be without fruit of all kinds. In the city we can not live without it; and though it is frequently very dear, yet it is cheaper to buy peaches at a dollar a peck than pills at two dollars a box; the peaches taste better, without any company, than the pills with the very pleasant company of the doctor.



*AIR AND TEMPERATURE.*

Impure air is one of the most common causes of disease, and should be carefully guarded against. Impurities of the atmosphere arise most frequently from gaseous exhalations from decomposing animal or vegetable material, and though its effects are generally confined to near the locality where the poisonous matters are generated, yet at times they extend to a considerable distance in the direction of the prevailing winds. A badly-arranged privy vault, imperfect drainage or removal of the slops of the house, decaying vegetation near the house, or even a rank growth of weeds or grass in the yard allowed to decompose, is sufficient to give rise to most serious disease—diarrhoea, dysentery, autumnal fevers, or typhoid fever.

It has frequently been noticed that a house will prove unhealthy that is situated so that the winds blowing over a swamp, or piece of low land, will strike it. So, also, is it the case when the house is built so that the prevailing winds blow over newly-opened ground toward the house. In a new country, a family is protected against malarial disease by building the dwelling in the forest, and clearing the land on the opposite side to the direction of the prevailing winds; and on the prairies, by leaving the ground about the house unbroken.

As regards *deficient drainage*, it has heretofore been spoken of as rendering a house damp, but we must now consider it as rendering the atmosphere impure. Dr. Williams remarks, "that the deleterious operation of effluvia arising from this may stop short of a directly poisonous effect, and yet, by adding to the unwholesomeness of the atmosphere, it may gradually undermine the health. The soil which drains from habitations, contains, in addition to excrement, dirty water, the washings and remnants of vegetable matters used as food, and other offal. All these are mixed together, and stagnant, in the corrupting slough that is retained in cess-pools and



privies, or that is carried into sewers. The stench which exhales when these receptacles are opened, gives some idea of the deleterious influence they originate, and the fearfully poisonous nature of the emitted gases, is often proved by the sudden faintness and sickness, nausea, vomiting and diarrhœa, which attack persons engaged in emptying them. \* \* It is no wonder, then, that every ill-drained house has a Pandora's box ready to pour forth its evils whenever occasion offers; and always oozing them out in degrees sufficient for the impairment of the health of the inhabitants, and the gradual excitement of cachectic and other chronic diseases."

*Dryness* of the atmosphere is promotive of health, and I have heretofore adverted to the importance of keeping the cellars and walls of the house dry. A very dry air, however, is injurious, as we observe in the winter in stove rooms. It causes dryness and irritation of the respiratory mucous membranes, excitation of the system, and disordered innervation. A stove used to heat a room, does it by heating the surrounding air, having but very little tendency to produce circulation of it or ventilation; it causes extreme dryness and undue expansion of the air thus unfitting it for respiration. The consequence is, a sense of fullness of the head, irritation of the respiratory passages, debility of the skin, and feeling of languor or listlessness. When warmed by an open fire-place, or large grate, which heats the room by radiation, a free circulation of air is produced, the temperature is not unduly increased, nor is the air deprived of its moisture or other vivifying properties. Sitting in stove-rooms we believe to be one of the most frequent predisposing causes of consumption and other diseases of the lungs.

A *damp* or moist air has less vivifying power than dry air, as it contains less pure oxygen, and is also objectionable from the facility with which it sets up processes of decomposition and infection. Warm, moist air is very relaxing and debilitating to most persons, while cold,

damp air is proverbially unhealthy—checking perspiration, chilling the surface, giving rise to colds, diseases of the lungs, rheumatism, etc.

“The invigorating effect of fresh air may be partly referred to its superior purity, more perfectly adapting it to the work of respiration; but some of its refreshing power is due to a direct influence exercised on the nerves and capillaries of the surface of the body, and through them on the functions generally. This is exemplified in the reviving power which a current of fresh air or fanning exerts over persons in a state of faintness; and this result is the more remarkable when the air is cool and the body has been previously weakened by heat and confinement. The less marked but more enduring benefits of fresh air are experienced in rides, drives, and other outdoor exercises, passive or active, which are universally acknowledged to be essential to the maintenance of the bodily health. To obtain the greatest amount of good from these airings, it is advisable not only to resort to localities where the air is most pure and free from contamination, but also to vary its qualities in other respects. Thus the inhabitants of valleys derive benefit from the air of hills—those of inland places from that of the sea—and residents on the sea-coast find advantage in drives inland. For a similar reason, great improvement often results to the health from continued traveling by land or sea; and although this comprises other hygienic influences, beside change of air, experienced teachers rarely fail to distinguish this as being of sensible efficacy, and exercising a marked effect on the vital functions.”—*Williams*.

Physicians are frequently consulted in regard to change of climate for persons suffering from chronic disease, especially consumption, and there has been much diversity of opinion on the subject. It is now pretty generally admitted, and, I believe, conclusively proven by experience, that southern climates are rather deleterious than other-



wise, to a majority of persons suffering from consumption. The warm, moist atmosphere in winter and spring, though of itself tending to relieve irritation of the lungs, distorts the system, and does not give that vivifying influence that is so characteristic of northern climates. So though the sufferer may seem improved for a few weeks, at last the vital powers fail as rapidly as if he had remained at home. Much benefit is obtained in many of these cases, by a residence in the North or West, as Colorado, St. Paul, etc., and I am satisfied by experience that a summer or even a winter residence there will be attended with better results than in the South, or the milder climate of the Middle States. A voyage to California and residence for some time in that State has been strongly recommended in some cases, and attended with most vivifying results.

In very many cases all the benefit to be experienced from a change of climate, can be obtained at short distances from home. One of the main objects is change of scene; second, change of habits; and the third, exercise in the out-door air. If these are obtained it makes but little difference where the person goes, always choosing a change of country that has pure air, and in the case of persons who live in low grounds, an elevated country.

As regards *temperature*, that most conducive to comfort and health, is about 65° Fahrenheit, and it must be an exceptional case that requires that the air of a room should be heated above this. "The advantages of keeping the atmosphere of apartments considerably cooler than the body itself, consists, not only in the greater amount of oxygen that is then contained in a given bulk, but also in the greater force with which the warm, foul air of respiration is carried away from the breathing passages, and a fresh medium supplied to them in consequence of the difference of temperature maintaining a current. Overheated rooms are peculiarly oppressive, for the converse reason, and the air is continually changed by efficient ventilation



rooms warmed by stoves or heated air, cause a feeling of closeness which does not result from open fire-places, because these latter communicate heat chiefly by radiation, and leave the atmosphere comparatively cool. The animal body being naturally much warmer than the surrounding air, operates as a ventilator for itself, by the same consummate adaptation of pneumatic laws as that which supplies a flame or fire with a continued current of fresh air; just as a fire burns brighter and clearer in frosty weather, so an animal breathes a purer, denser air at the same time which, if not injurious by its cold, is refreshing and invigorating to the body."—*Williams*.

### EXERCISE.

In order to keep the body in a healthy condition, it is necessary that all parts be called into action. Exercise facilitates the breaking down of the worn out structures of the body, and their replacement by new material. It gives a normal stimulus to the respiratory function, and to the circulation of the blood, increases the excretions, and improves the appetite and digestion. Those who lead sedentary lives have their bodies formed of old and partially worn-out material, and of course, can not enjoy that joyous feeling of elasticity and health that belongs to those in whom the nutritive powers are active.

It is a law in physiology, that a part grows in proportion to the demand on it for action; a wise provision of Providence to adapt man to any situation in which he may be placed. Not only does it increase in size, but in still greater ratio in strength or capacity to perform its functions. Thus we notice that the arms of the blacksmith, and especially the right arm with which he wields the hammer, is increased in size, the muscles are hard and firm, and its strength is greatly increased. The ballet-dancer has the muscles of her legs remarkably developed, whilst the person who sits the greater portion of the time,

finds himself with legs possessing neither size nor strength. Not only may single groups of muscles be increased in size and strength, but the entire muscular system may be equally developed in the same manner. As an example of this we might instance those trained to athletic performances who exhibit themselves through the country or Dr. Winship, of whom nearly all have heard, who by a systematic course of training was enabled to lift over a ton in weight.

Not only is the muscular system susceptible of growth and improvement, but all parts of our bodies are governed by the same laws. Do we wish to go bare-footed? after a time the skin of the feet is so thickened and protected that we can do so with comfort. Do we wish to employ our hands at severe labor, as cutting wood? nature provides a thicker and tougher envelope for the palms, sufficient to withstand the friction. It is a well known fact that the brain of the scholar increases in size and density that the capacity of the lungs is increased by exercise that if one kidney be destroyed by disease, the other will become much larger and fulfill the functions of both, &c.

These facts should teach us, that if it is desirable to increase our muscular power, the only way in which it can be done, is by a continuous and judicious exercise of the entire body. Do we wish to increase the power of a particular muscular part? we call these muscles into action day by day until the purpose is accomplished. Do we desire a larger and better pair of lungs? we adopt a continuous course of exercise for them, and the development is almost certain to follow. Thus I very frequently have occasion to recommend to persons with weak lungs, thoracic muscles, that they increase the capacity of the chest by frequent full inspirations, and the strength of the respiratory muscles, by dumb-bell or similar exercise. The system of free gymnastics that is now being introduced into our public schools, is a most excellent plan for the development of the muscular system, the only true



ing that the teachers do not seem to be impressed with the fact that time is necessary to develop increased nutrition and strength.

Those who labor in the open air have no occasion for gymnastic exercise, their only trouble being to avoid excessive action which weakens instead of giving strength. To those engaged in sedentary employments, the cultivation of a garden, sawing the wood, or other useful outdoor employment may give the necessary outdoor exercise. It is recorded of Dr. Lyman Beecher, that he not only sawed his own wood to obtain the necessary exercise, but would gladly aid his neighbors for the same purpose. If you can not be suited in this way, have a swing made in your shop or office, of a couple of pieces of rope firmly attached to the ceiling, and a stout piece of round hickory at such a height that you can just reach it with your hands, grasping this, the act of swinging will call into action all the muscles of the body. A pair of dumb-bells will answer a very good purpose if associated with considerable walking.

Though exercise is so essential to health, it is necessary to avoid carrying it to excess, as serious injury might follow. In adopting any course of exercise it must be commenced with moderation, and never carried to exhaustion. Day by day the capacity for exercise will be increased, and the time can be prolonged with safety, until a normal amount is obtained. There is no use of exhausting vital power in swinging by the hands, or using a pair of dumb-bells; all that we desire by their use, is to give normal nutrition and strength.

In the case of feeble children, a systematic course of physical education, will, in many cases, yield a strong and robust body, when, without it, the child would have sunk into a premature grave. So in many diseases, by calling into moderate action the parts affected, or those closely associated with them, we sometimes accomplish wonders



**MENTAL OCCUPATION.**

Mind has great influence over matter, and we now have better examples of it than in our bodies. An occupied, contented mind conduces to health, the reverse disease. No better proof of this proposition is near than the evidences of our observation on persons around us; the restive, anxious countenance, indicative of care, an ill-spent life, most surely tells the story of future physical ailments, while the busy and contented, other things being equal, rarely have need for the physician.

Over activity of the mind from study or business caused by cares or misfortunes, is exhaustive of power, prevents normal action and nutrition of organs and parts, and thus destroys the harmony which should exist in our bodies. Ask your physician, and he will tell you the most difficult cases of diseases he meets with, are in persons of this class; and he sometimes finds it impossible to give the patient relief in cases in which otherwise he would find but little trouble.

A hale gentleman of ninety-four, had one evening contributed largely to the entertainment of a social party by his performances on the violin. After his departure the remainder of the company set themselves to speculate on the causes of the good health and soundness of old age, which he continued to enjoy at so advanced an age. After many theories had been discussed, one gentleman, who happened to be a near relative of the venerable violinist, told his companions that "he believed they were all wrong, upon good grounds of observation was his conviction that Mr. ——— owed his singular longevity of days and good health to nothing else than his play on the violin. He had been a player on that instrument for the last seventy-eight years, had during that time played more or less every day, enjoyed it keenly, made others happy by the strains, and derived happiness from himself; lively music had been the very salt of

ted that in all probability the right explanation had given.

It is undoubtedly so. It is now quite settled by physiologists, that cheerfulness sustains, and cares health, and that a certain amount of happy hours is necessary to the prolongation of life. The new works out its verity in a striking manner, wherever are large bodies of men concerned, as in military or naval expeditions. That officer, it is acknowledged, is sure to have the healthiest regiment or ship's crew who best can sustain their cheerfulness, or keep in merriment; and for this reason, it becomes a matter of *serious concern* to encourage the men in getting amusements and sports among themselves. This was done with the best effects by Captain Parry during his compulsory wintering in the Arctic regions. We will, on the same grounds, pledge any reputation we may have for ourselves, to the conclusion that, in two families of young men, brought up in circumstances otherwise identical, starting with equal advantages in point of constitution, that will be the healthiest, and come to the most victorious set of men and women, which has been in the world, of parents of cheerful and kindly dispositions; that has been most encouraged, under decent bounds, to play, to dance, to sing; has been the least

tion. Especially is sleep of importance to the nervous system, as during it there is complete suspension of the cerebral and sensorial functions, and when this necessary rest is obtained, the mind again acts with vigor. During sleep, every function is in abeyance, except the vegetative, hence waste of the tissues is arrested, and the vitality of the body can be concentrated for its own repair and protection.

The young require a great amount of sleep—the infant almost the entire time except when nursing, as its functions are purely vegetative; and the child of two to four years, ten or twelve hours at night, and its mid-day nap of two or three hours. It must not be supposed that this arrangement can be broken into with impunity, as disease will in very many cases result from neglect in these particulars. The adult requires at least eight hours of refreshing sleep; some need more, while others can do with less, but this seems to be the average.

“The influences which prevent or disturb sleep are, any undue excitement, or sensation of body or mind, whether of a painful or pleasurable nature; strong, sudden, or startling impressions on the senses; uneasy postures; extreme fatigue or exhaustion; oppressed or imperfect breathing; palpitation of the heart; hunger, thirst, nausea, flatulence, and various other (often undefinable) sensations in the viscera; extremes of temperature; coldness of the extremities; irregularity in the habits of seeking repose.

“The loss of rest is so seriously detrimental to health, that it is of the utmost importance in a hygienic point of view, that this result should be obviated; and beside avoiding, so far as may be possible, the several causes of wakefulness just specified, bad sleepers should strictly attend to the following directions for their regimen, rather than resort too hastily to hypnotic drugs, which, although sometimes useful and necessary as temporary expedients, lose their power by habitual use, and produce other evil



consequences which render their long continuance improper.

"Bad sleepers should make a regular practice of early rising. It may cost them some effort at first; but if they desire to have sound rest, they should seek it at the natural time, and not late in the morning, when the excitements of the day begin. Their hours for meals and exercise should also be early and very regular, both in order to promote that state of health most conducive to ease and freedom from suffering, and also to secure the accomplishment of the processes of digestion, and consequent excretion or eructation before night, which is the proper period for repose. Exercise should be taken freely in the open air as the strength will permit, without causing lasting fatigue; and if walking or riding can not be borne without such result, driving or sitting out in the open air several hours in the day, may often be resorted to as an efficient substitute. As the hour of retirement for rest approaches, every description of excitement should be avoided."

### EXCRETION.

Care of the person, so as to promote excretion from the body by the skin, kidneys and bowels, is among the most important of hygienic measures. We have already seen that the broken down elements of our bodies are removed by these channels, and that their retention invariably produces disease.

The *skin* is not only a very important excretory organ, giving exit to about half an ounce of deleterious material daily, but it is also, to some extent, a respiratory organ, and is very intimately associated in sympathy with the vascular and nervous systems. Very many acute diseases arise from sudden arrest of this secretion, which would not occur if proper attention had been habitually given it, so as to give it tone and strength. As a general rule, bathing for the purpose of cleanliness is all that is

required, but in some cases special baths are appropriate.

Quite a large number of persons seem to have as great a horror of water, locally applied, as if they had been bitten by a mad dog; and for years their bodies have never received a thorough cleansing. Such persons are passing away, and the rising generation better appreciate the usefulness as well as luxury of a bath. Children should be habituated to the use of the daily bath in summer, and two or three times a week in winter. In early life the water should be tepid, but after the age of ten or four years, it can usually be used cold. Occasionally it should be employed warm, with soap, for the better removal of the oily secretion of the skin.

Every house should have appliances for bathing. They need not be costly, and do not require much skill in their preparation. When it is not convenient to have a bath-tub, an India rubber bathing cloth, costing six dollars, and lasting for years, will answer an admirable purpose. If this is not readily obtained, purchase a yard and a half of common oil-cloth, and sew a half inch rope in its border to keep the water from running on the floor. Spread either of these on the carpet, and with a basin of water, sponge, and crash towel, the luxuries of a bath may be enjoyed in perfection. If a person is of feeble constitution, use tepid water, or if it is desired stimulating, use salt, but if reaction is readily established, employ cold water.

The habitual use of the cold sponge-bath, is the most efficient means of preventing *colds*, and the entire source of acute diseases which arise from them. A woman applied to me, remarking that she can not put her hands in water or expose herself to change of temperature, without having *ague in the breast*. I advise the daily use of the cold bath, commencing with tepid water, and gradually lowering the temperature, and she ceases to be troubled with her annoying complaint. Another is troubled with a harassing cough through the winter, and is continu-



taking cold. The same advice followed out, gives almost entire exemption from cold or cough. A child has frequent attacks of croup, to the great distress and annoyance of the parents; the habitual use of the bath is found to arrest this tendency. It may be laid down as a general rule, that the best prophylactic to colds, is the use of the cold sponge-bath.

In very many cases of commencing cold arising from exposure, the use of the hot foot-bath will re-establish secretion from the skin and prevent disease. The general tepid, or warm bath, is frequently of much advantage in the same cases, and also after exhaustive mental or bodily exercise, especially if followed by brisk friction. The warm or cold head-bath will be found very useful in obviating excitations of the brain, and the many evils that flow from it.

The *kidneys* are generally supposed to be able to take care of themselves, and no attention is paid to their secretion. As we have heretofore noticed, it is the most important excretion of the body, and life itself is dependent upon its continuance. Irritation of the nervous system, headache, dizziness, derangement of the stomach, etc., flow from its partial arrest. As water increases the quantity of urine, it will, in these cases, be found advantageous to take a tumbler full of cold water before breakfast, and such exercise as, while it calls the muscles into play, will not excite perspiration.

In the summer, the secretion of urine is decreased, and the secretion of the skin increased; in winter it is the reverse. If, therefore, a sufficient quantity of water is not passed through the kidneys to wash away the solids of the urine, it is of advantage to increase the amount of fluids taken, and lessen the excretion from the skin by the use of the bath.

The urine should be regularly voided, and not allowed to accumulate in the bladder. Want of attention in this respect may produce but little difficulty in the young, but



in after life it may occasion very annoying diseases of the urinary organs. Especially is the habit of long retention of urine on the part of woman to be deprecated, as it changes the position of the pelvic organs, and gives rise to such relaxation as produces the various displacements that prove so deleterious to the woman's health.

*Regularity of the bowels* is essential to perfect health, not only because the secretions should be promptly removed, but more especially because torpidity of the intestines impairs digestion. A very little attention on the part of the young will establish habits of regularity that will last for life, and in a large majority of persons, observance of the following rules will overcome habitual constipation.

Some regular time should be selected for this excretion, and punctuality to the minute, should be attended to. This, like many other functions, is naturally periodical, and when, again, a definite periodicity is established, no further trouble will be experienced. If the bowels are sluggish and will not move at these times, an injection of cold water will accomplish the desired object. With persons whose bowels act regularly, the feculent matter is ready in the rectum for expulsion at the proper time; but in those of a lax and sluggish habit, and who have torpid bowels, time is required to effect the object. Violent straining is injurious at all times. "Repeated gentle and sustained abdominal contractions, assisted, if necessary, by kneading pressure or friction downward in the left iliac region, in the direction of the sigmoid flexure, with occasional variations in the position of the body, are the safest and most efficient means for accomplishing the object, but they require the sacrifice of a few minutes of time, and if the end were not worth the sacrifice, I would not trespass upon the delicacy of my readers by this allusion to so disgusting a subject."

*Intoxicating Liquors as a Cause of Disease.*

The abuse of intoxicating drinks is almost invariably followed by disease, and it is well to know why this is the case, so that if we shorten our lives in this way, we may at least have the satisfaction of not doing it ignorantly. Alcoholic liquors are soon absorbed, their stimulant action being speedily exercised on distant parts, especially on the vascular and nervous system. Being absorbed by the veins, they pass by the portal vein into the liver, the function and structure of which are peculiarly apt to suffer from excesses, especially when spirits have been freely indulged in. So, too, the kidneys, which are the natural excretories through which such extraneous matters are eliminated from the system, are often over-stimulated, and are injured in their secreting power, and ultimately in their structure also. The heart and vessels are over-excited at first, and afterward lose their tone, and the processes of digestion and nutrition become modified. The nervous system is an especial subject of the disordering influence of intoxicating liquors. A large quantity taken at a time is a narcotic poison, inducing a short period of cerebral excitement or intoxication, followed by insensibility, in which the functions of the brain are more or less completely impaired, and in extreme cases those of the spinal marrow suffer; and if the influence be insufficient to stop respiration, yet it may be imperfectly performed, and congestions are formed in the brain and other organs. Hence apoplexy, palsy, phrenitis, or delirium tremens may follow, and the whole frame may suffer from the effects of the poison. Even when less excessive quantities are taken, and their first effect is mere intoxication, the headache, sickness and inappetency, and the feelings of wretchedness and depression which often ensue, sufficiently prove that disorder has been produced, and that such artificial excitements can not be repeated with impunity.

The habitual indulgence in strong drinks causes further



varieties of disease, which are so prevalent as to deserve notice. When taken only or chiefly with food, not as a substitute for it, but as a constituent of general "free living," they contribute to the production of an abundance of ill-assimilated, over-heated blood, which either finds its vent in eruptions on the surface, or in local hemorrhages or fluxes, or causes various functional disorders, such as palpitation of the heart, vertigo, stupor, dyspepsia, bilious attacks, etc.; or may tend to the production of a fit of gout or gravel. The latter results are promoted by such beverages as contain much free acid as well as an abundance of spirit; such as port wine, rum-punch, and hard, strong beer. The less acid malt liquors, ale and porter, tend rather to induce liver disorders, and an abundant deposition of fat in the body. All these consequences will be much favored by sedentary habits and deficient excretions; active exercise carries off much of the spirit and superfluous aliment, by an increased elimination of the acids of respiration and perspiration.

The most disastrous consequences of intemperance are exhibited by the habitual drunkard, who, in proportion as he indulges in liquor, loses his appetite for food, and his power of digesting it. He then drinks and starves, and the disease which ensues comprises the exhaustion of inanition with the more direct effects of the alcoholic poison. Thus, in delirium tremens, the drunkard's disease, together with the permanent restless excitement of the irritated nervous system, which adds more and more to the exhaustion, the weakness of mind and body, is fearful, and in bad cases affect even the organic functions, so that the pulse is very weak and frequent, the excretions scanty and depraved, and the respiration is too imperfectly performed by the involuntary powers to permit sleep to ensue. This exhaustion must soon terminate in death, unless prevented by appropriate treatment.

Again, we find that the habitual use of intoxicating liquors increases the severity of acute diseases, and renders



them less amenable to treatment. In epidemics it has been found that intemperance, or even what some term a *moderate* use of stimulants, predisposes to an attack. Thus in the epidemic of cholera in this city in 1849-50, the drinking of liquor, instead of proving prophylactic, as some fondly supposed it would, increased the predisposition to the disease, and greatly aggravated its malignancy.

These reasons, if there were not others of a much stronger nature, should prove sufficient to cause a man to live temperately. Total abstinence, however, is preferable, because it is morally easier to practice; the faculty of restraining an appetite, after it has been once formed, being possessed by few.

## PART III.

### MEDICINES FOR FAMILY USE.

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Medicines for family use should be few and simple, and such as will tend to favor nature's processes of cure. The harsher and more violent means of treatment should always be left in the hands of the physician, as it is not to be supposed that the unprofessional person can have such knowledge and experience, as will render their use safe and beneficial. Medicine should be used only when there seems to be absolute need for it, and in all, but the milder cases of disease, under the direction of a well educated physician. Still, there are many minor ills that may be appropriately treated by the family, and in many cases it being impossible to obtain a physician, even severe cases, will for a while, remain under domestic management.

In order to understand more fully what may be rationally accomplished by medicine, we will notice how nature relieves the system, premising that this is the only safe method, and that when medicines are used, they should be employed to stimulate and control these natural processes. Let it be recollected that a large proportion of the sick will recover without the aid of medicine if careful attention is paid to nursing and diet—say as much as 90 per cent. of bilious or even typhoid fever; 95 per cent. of inflammation of the lungs, and similar proportions of other diseases. There can be no mistake about this matter, as it is the result of most carefully conducted experiments. It is said that *nature* relieves these cases.

"There is," says Dr. Williams, "in organized beings, a

certain conservative power, which opposes the operation of noxious agents, and labors to expel them when they are introduced. The existence of this power has long been recognized, and in former days it was impersonated. It was the *archæus* of Von Helmont; the *anima* of Stahl; the *vis medicatrix naturæ* of Cullen. But without supposing it to be ought distinct from the attributes of living matter, we see its frequent operation in the common performance of excretion; in the careful manner in which the noxious products of the body, and offending substances in food are ejected from the system; in the flow of tears to wash a grain of dust from the eye; in the act of sneezing and coughing to discharge irritating matters from the air passages, and in the slower, more complicated, but not less obvious example of inflammation, effusion of lymph and suppuration, by which a thorn or other extraneous object is removed from the flesh.

"This *vis conservatrix* is alive to the exciting causes of disease, and in persons of full health it is generally competent to resist them. How it resists them will depend upon what they are. For instance, is cold the cause? This throws the blood inwardly, which, by increasing the internal secretions and exciting the heart to increased action, establishes a calorific process which removes the cold. Is the cause improper food? The preserving power operates by discharging this speedily by vomiting or by stool. Is it a malarious or contagious poison? It is carried off by an increase of some of the secretions. But if this resisting power be weakened, locally or generally, or if the exciting cause be too strong for it, then the cause acts, and disease begins."

It has already been stated, that in many cases, the natural powers of the system are sufficient for the restoration of health, and, also, that the physician or other person who proposes to benefit the sick should understand and carefully assist these efforts of nature. The question now comes up, how does nature remove disease?



In general diseases, as fevers and acute inflammations, we find that this is accomplished by a concentration of the vital force, and an increased secretion from those organs that normally eliminate noxious materials circulating in the blood. Of these organs the kidneys, skin and glandulæ of the intestinal canal are the principal. In all of this class of diseases we find that one or more of these organs are inactive during its progress; but their activity and the quantity of the excretion is greatly increased in the decline of the disease. The opinion is very prevalent among physicians, and is taught by many teachers and the majority of text books, that this increased excretion is not a necessary process in the removal of disease—that it is mainly the result, and not the cause of the cure. We will also find that these same authorities never allude to the fact, that the system will, in a majority of cases, relieve itself of disease.

Any one who carefully examines the properties and action of all the most prominent articles of the materia medica, can not fail to be convinced that a very large majority of them owe their beneficial effects either to a direct or indirect action in increasing excretion and the elimination of morbid materials from the system. Thus the classes of *diaphoretics*, *diuretics*, and *cathartics*, act directly in this way, and are administered for this purpose. The entire class of *alteratives*, also, undoubtedly owe their beneficial influence in most part to their eliminating action. *Emetics* not only act directly as eliminatives, by causing the evacuation of morbid secretions from the stomach, but also indirectly by their sedative and relaxing effects upon the system when under a high state of excitement, this relaxation being almost invariably followed by an increased action of the skin, kidneys, and bowels. So with the prominent class of *sedatives*, though not directly affecting the secretory apparatus, yet by their controlling influence over the circulation, high vascular excitement is subdued, and secretion is the natural result.

If we trace the course of any general disease where no treatment has been pursued, we will find that increased secretion and consequent elimination always precedes a change for the better; and the same is true when even the most opposite remedies have been used. Without this increased elimination does take place, death is inevitable. Acting on these views, Eclectic physicians have been very successful in treating the common acute diseases of this country. Their attention has been especially drawn to the importance of due attention to these emunctories, and a large portion of the treatment is directly to stimulate elimination in this way. In addition to this, the fact generally recognized by them, that in disease there is always a depression of the vital force of the system, and that this should be kept up by *tonics* and *stimulants*, has also added materially to their success.

That nature is able to cure almost all curable diseases, is clearly proved by the results of homœopathic treatment. There are but comparatively few who have any faith in their *attenuations* and *dilutions*, and yet we find that more favorable results are obtained under this plan than under the old depletive system. This well-known fact is sufficient evidence that the sick will get well without medicine, and that medicine said to be scientifically administered, is responsible for no small per centage of deaths under regular treatment.

If this be so, you might well ask me, what is the use of physicians, or medicine? The province of medicine is undoubtedly to place the system in such condition that it can resist disease, remove such material as may endanger the integrity of its structure, and repair such lesions of structure as may be produced. As examples: the stomach has been overloaded with crude, indigestible material, its function is impaired, the entire system sympathizes, and the person is sick; nature will sometimes remove the offending material by vomiting, at others, by the bowels; art steps in, gives an emetic, and the disease is at once

arrested. The bowels become torpid, secretion is arrested, and the material remains to some extent in the blood, impairing the functions of the entire body; the natural powers of the system will be sufficient in a very large majority of cases to re-establish the secretion, but days may be required; art gives a cathartic, and the secretion is at once restored. The person has been exposed to vegetable malaria. The blood is poisoned, and fever is the result. In a very large majority of cases, nature is sufficient to remove the disease, but weeks may be required to effect it; art steps in, and by the use of remedies to restore the excretions, and quinine to restore innervation, and for its antagonistic action to the malarial poison, the disease is arrested in two or three days. In continued fever, as we have already seen, the disease will be removed by the natural powers of the system in ninety per cent. of the cases, but a period of weeks will be required; art furnishes a special sedative which quiets the excitement of the circulation, and relaxes the system, and remedies which re-establish the secretions, and thus in a few days the fever poison is removed. We do not in these cases save life in but few instances, because but few would die if left to the natural powers of the system. We do, however, shorten the period of sickness two-thirds or three-fourths, save much suffering, and prevent that great exhaustion and impairment of vitality which would frequently result. In doing this, we rest our claim as benefactors of humanity.

In other cases we set up a different action in the system, which is but temporary, and unattended with danger, to relieve disease of some important organ or part. We thus give stimulant cathartics in inflammation of the brain and other organs, diverting determination of blood from the part originally diseased to the bowels, and thus lessening or arresting the inflammatory action. For the same reasons we use the sinapism, blister, cups, or irritating plaster.



others again we are enabled to employ a *specific*, which acts directly upon the diseased structure, restoring healthy function, or neutralizes the poison which is the cause of the diseased manifestation. As examples of this, may instance the employment of the tincture of muriatic iron in erysipelas, the use of belladonna in scarlet fever, the drosera in whooping-cough, and the cough of measles, the bromide of ammonium in some cases of epilepsy, etc. It is true, doubtless, that in the strict interpretation of the term, we have no specifics in medicine, but it is only, as I believe, because our knowledge of disease and the action of remedies is imperfect.

In other cases we stimulate the various organs to a better performance of their functions, and furnish to the body the material for increasing its tonicity and repairing the waste of structure. For this purpose we use the better tonics, iron, phosphorus, sulphur, the alkaline bases of the blood and tissues, acids, and fatty and albuminous material that is easily appropriated.

In all that we do, we keep constantly before us the physiological action of the different organs or parts, and the normal action of the body as a whole, and as far as possible, bend every means to get such normal action. And finally, we carefully husband our patient's vitality and resources, and prevent their unnecessary expenditure or their direction in a wrong channel. This, it seems to me, is the line of duty for the physician, and the only one in which his efforts will be attended with success.

The medicines most appropriate for family use, may be classified under their usual heads of emetics, cathartics, diaphoretics, diuretics, sedatives, narcotics, alteratives, tonics, stimulants, astringents, anti-spasmodics, expectorants and emollients.

### EMETICS.

An emetic is a remedy which, when taken into the stomach, will produce an expulsion of its contents, or

vomiting. Some remedies of this class, as lobelia and ipecac, produce nausea, and a feeling of prostration, while with others, as mustard, no such effect is produced, or it is but temporary. The first class of agents are absorbed into the blood, and act from it, hence the nausea; while the last causes emesis by irritation of the mucous membrane of the stomach. Vomiting may likewise be induced by taking large quantities of tepid water, the distention of the stomach being the exciting cause, or by passing the finger down the throat, and thus irritating a branch of the nerve that is distributed to the stomach.

Emetics are most commonly used for the following purposes: 1st, to remove any agent or material that is likely to produce injurious consequences, as in cases of poisoning; 2d, to remove the morbid or vitiated secretions of the stomach, and undigested food, and stimulate a normal supply of blood and nerve force to it; and 3d, to produce relaxation, and an equal circulation of blood in all parts of the system.

The indications for the use of an emetic are usually very plain, and, if carefully observed, there is little danger of going astray. An emetic may be used with advantage when a person suffers with pain or cramp in the stomach produced by green, indigestible food, or by taking food in too large quantities; or in any case where it is evident that the contents of the stomach are producing irritation. In the commencement of disease, an emetic is indicated by a foul tongue, bad taste in the mouth, and feeling of weight and oppression in the region of the stomach.

1. **TEPID WATER AS AN EMETIC.**—A very good action may be obtained from simple warm water in the second and third cases just spoken of. It is mild and efficient in its action, easily obtained, and if properly used it can do no injury. To get its emetic action, take from one to four pints, drinking it continuously but slowly, so as not to produce too rapid distension. Then pass the finger down the throat once or twice, and efficient vomiting will.

low. If necessary, repeat it two or three times until the stomach is thoroughly freed.

2. COMMON SALT.—Salt will act as an emetic if taken in considerable quantities, and sometimes answers an excellent purpose. Add a teaspoonful of salt to a common tumbler of warm water, and if it does not excite vomiting, repeat it in ten or fifteen minutes.

3. MUSTARD.—Mustard is an excellent emetic in many cases, acting very kindly, and without the slightest danger. We always use it in poisoning by laudanum, or other preparation of opium; and frequently when it is necessary to remove irritant material from the stomach, as in colic, cholera morbus, etc. Add a teaspoonful of ground mustard to a common tumbler of warm water and drink it at once, repeating in a short time if necessary. In cases of cramp of the stomach, colic, or cholera morbus, arising from indigestible food, it will be found to answer an excellent purpose.

4. BONESET—(*Eupatorium Perfoliatum*).—This very common and well-known plant may be used as an emetic in cases of cold, commencing inflammation, and when it is desirable to produce free perspiration. Its action, however, is in some cases quite disagreeable, acting slowly and with difficulty, and producing great nausea and prostration. Add a small handful to a pint of boiling water; let it stand in a covered vessel until tepid, then give a wine-glassful every ten minutes. Its action may be aided, and unpleasant effects avoided, by drinking ginger tea or other gentle stimulant.

5. IPECACUANHA.—Ipecac is one of the most certain and efficient of the true emetics, and may be employed in any case in which an agent of this character is needed. From fifteen to twenty grains of the powder may be taken and repeated every fifteen minutes, until the desired action is obtained. Some stimulant infusion should be given with it, as every remedy of this class acts more kindly if taken with a large quantity of fluid.



6. **EMETIC POWDER.**—We employ a combination of lobelia, ipecacuanha, sanguinaria, and ictodes, of each two ounces; capsicum, half an ounce. Pulverize and mix. It is the most thorough and efficient emetic that I have ever employed in acute affections, as fevers and inflammations. It first produces nausea, the patient becoming very sick, relaxation of the entire system, an equal circulation of blood, and complete evacuation of the stomach. Add a heaping teaspoonful of the powder to three-fourths of a teacupful of boiling water; let it stand fifteen minutes, when it will be ready for use. Give it in tablespoonful doses every five or ten minutes until it operates freely; an abundant supply of warm water, or gently stimulating tea being taken to render its action easy. Its administration may be continued for half an hour, or hour, or until the necessary effects are produced.

### CATHARTICS.

Cathartics are remedies which cause evacuations from the bowels, and are divided into five classes—*laxatives*, *mild cathartics*, *cholagogue cathartics*, *hydragogue cathartics*, and *irritant cathartics*. The first produce a gentle action on the bowels; the second act thoroughly, but without irritation or prostration; the third act on the liver, stimulating increased secretion of bile; the fourth produce large watery discharges; and the fifth act with very great vigor and intensity.

The objects to be obtained by the use of cathartics, are the removal of irritant accumulations in the bowels, and obtaining increased secretion and consequent elimination. As heretofore remarked, the bowels should be attended to in such manner that they will act regularly without the use of medicine, and let cathartics be employed only when there seems to be absolute necessity for them. The indications for a cathartic are, sluggish action of the bowels, with constipation, loss of appetite, coated tongue, and

che. In these cases a gentle cathartic will frequently remove all the unpleasant symptoms.

ARE YOU BILIOUS?—Few persons pass through this of ours, without having asked or answered the question. "Liver complaint," though not quite so common as it was a few years back, is yet in many sections the prevailing disease. A person has the headache—a kind friend informs him he is bilious; his appetite becomes impaired by eating late suppers and drinking claret—“he is bilious;” he has not, in any particular, violated the laws of health, for, may be, ten, fifteen, or twenty years, he feels bad at times in consequence—of course he is bilious; he has made it a rule of life, never to get up from table as long as he can introduce more food; his stomach is constantly over-worked, and finally shows symptoms of rebelling—then he is bilious. Bilious people are the rage in this age of fast living and over exer-

cise. The doctors, too, kind souls, have also taken up the cry. In fact, we might say for the last fifty years, it has been their “harp of a thousand strings.” If called to a patient, and they could not readily diagnose the disease, of course he was bilious, or had liver complaint. In fact, nothing could be said that would impress the patient with more confidence in the physician’s skill, than to tell him he was bilious, that being readily comprehended by all, and being perfectly satisfactory. Even where the physician had better names for disease, it would not do to use them, as the patient or friends knew it was liver disease, and if the doctor did not coincide, they would employ some one that would.

Again, remedies for biliousness were plenty; the bilious person could find in any shop or store, half a dozen varieties—“anti-bilious pills,” “liver renovators,” “cholagogues,” “blood purifiers,” etc., all warranted to work off the offending bile, and give certain relief. Or, being somewhat afraid of quack medicines, could keep ready

prepared a lump of *blue mass*, or bottle of calomel, to be taken as occasion required—a certain panacea for all the ills of life. The physician, too, how handy it was for him that patients were bilious, as for that, if for nothing else, he had a specific in *blue pill, calomel, mercury and chalk*, etc. Eclectics, too, like others, are sometimes bilious, and have their anti-bilious remedies, in the shape of podophyllin, leptandrin, etc., but we are happy to believe it is not a common complaint with them.

If I have any advice to give, it is to beware of biliousness; live temperately, keep the skin in good condition, by the use of a daily, at least a weekly bath, accustom the bowels to move, as regularly as you eat your breakfast; above all things, eschew the taking of anti-bilious medicines, and my word for it, you will soon outgrow being bilious.

If cathartics have to be employed, choose those that act mildly and efficiently, and leave the bowels in good condition, as very many leave them more obstinately constipated than before the medicine was taken. Use them as seldom as possible, and after their action take especial pains to regain a habit of regularity.

7. COMPOUND POWDER OF RHUBARB—(*Neutralizing Physic*).—This is made of equal parts of rhubarb, bi-carbonate of potash and peppermint herb, finely powdered. It may be used in any case as a gentle laxative, in doses of twenty to thirty grains, but is more especially applicable in case where a diarrhoea has resulted from accumulations in the bowels. It is a most excellent remedy for children, when the bowels are lax, and the stools look green and frothy or are light clay colored. It is also one of the best remedies to check irritation of the stomach, nausea and vomiting, and undue acidity and heartburn. We prepare it for children, by adding a teaspoonful to half a teacupful of boiling water, straining when cold and sweetening the dose for a child two years old, will be a teaspoonful every one or two hours.



8. COMPOUND POWDER OF JALAP.—This is formed of equal parts of jalap, senna and ginger, and is one of the most efficient of the mild cathartics. It is thorough in its action upon the entire intestinal canal, and does not produce nausea or griping, and leaves the bowels in good condition. If it were not for its unpleasant taste and bulk, it would be preferable to any other agent for family use. In cases of wind or bilious colic, it is almost a specific, giving speedy and permanent relief. The dose is about thirty grains, or an even teaspoonful, mixed with cold water.

9. SEIDLITZ POWDERS.—Seidlitz powders consist of two drachms of Rochelle salt, put up in a blue paper, and half a drachm of tartaric acid in a white one; they are dissolved in water in separate tumblers, which being mixed, is drank in a state of effervescence. They are very gentle in their action, and sometimes answer a useful purpose.

10. SOLUTION OF CITRATE OF MAGNESIA.—A solution of citrate of magnesia is put up in bottles holding about twelve ounces, which is pleasant to the taste, and a mild effectual cathartic.

11. CASTOR OIL.—The most nauseous, but one of the best cathartic medicines for family use, is the castor oil. The dose for a child, one year old, is a teaspoonful; four years old, two teaspoonfuls, and for an adult, one or two tablespoonfuls; combined with turpentine it forms a very good vermifuge.

12. PODOPHYLLIN PILLS.—We form a most excellent pill out of half a grain of podophyllin, and one grain each of leptandrin and extract of hyosciamus; the pill being sugar coated when dry. It acts on the liver with greater certainty than any preparation of mercury, and is a slow, though thorough cathartic, leaving the bowels in good condition. The dose varies from one to three pills on going to bed at night.

13. THE BUTTERNUT—(*Juglans Cinerea*).—If you live where the agents above named cannot be obtained, a most excellent laxative and cathartic may be obtained from the

butternut. Take of the inner bark a sufficient quantity, put it in a tin vessel and cover with boiling water; keep it on the stove or fire, where it will keep hot for one or two days, adding water as it evaporates. Then strain through a strong towel, using considerable pressure, then put the liquor in a vessel with one-half the quantity of molasses, and evaporate with gentle heat to the necessary consistency. It will be quite pleasant to the taste; the dose being a lump about as large as a cherry.

14. MAY APPLE—(*Podophyllum Peltatum*).—The dried root of the may apple is a very active cathartic if taken in large doses, and in almost all cases, its action is attended with griping. Still, if used in small doses, it will stimulate the entire intestinal tract, and answer an excellent purpose. The dose is from ten to twenty grains, combined with ginger, cloves or other aromatic stimulant. An extract may be formed in the same manner as named above, and an excellent preparation obtained.

15. ENEMATA.—Enemas or injections may be frequently used to promote an action of the intestinal canal, when cathartic medicines would prove injurious, and are sometimes necessary to facilitate their action. The syringe used for the purpose, may be the old fashioned pewter instrument, holding half a pint, but a much better one is the rubber pump syringe. Every family should possess one of these, as it may be needed at times when it would not be possible to obtain one, and occasions for their use not unfrequently arise.

The material for the injection is always prescribed by the attending physician, and his directions should be strictly followed. If acting without advice, a pint of moderately cold, or warm water will be found to answer in many cases. A teaspoonful of salt, one of lard, and a tablespoonful of molasses to a pint of water, is frequently used; or a weak soap-suds will be cleaner and answer the same purpose.

In all cases, let the syringe be used with care, so as



to injure the soft parts, and retain the injection for some minutes with a towel or napkin. If it pass away without causing an action of the bowels, or if retained, repeat it in a reasonable length of time.

### DIAPHORETICS.

Remedies that increase secretion from the skin, are among our most important weapons to combat disease, and a majority of the simples used in domestic medicine will be classed under this head. We have already noticed, at considerable length, the importance of maintaining a healthy action of the skin, not only on account of its secretion, but also, because it is the waste-gate for the extra heat of the body, and has a very intimate sympathy with other important parts of the system. Twenty-eight miles of drainage is necessary to keep our bodies in a healthy condition, and this extensive apparatus is under the influence of remedies to free us from disease.

A large number of the more common acute affections arise from arrest of the cutaneous secretion, and in the early stage, they may be arrested by means to restore this secretion. A person has been exposed to a cold, damp atmosphere, draughts of air, or sudden alterations of temperature, and as the result, has a dull headache, running at the nose, poor appetite, constipated bowels, chilly sensations, and feels bad all-over. We say he has caught a bad cold, and experience teaches us that in some cases this will eventuate in fever, inflammation of the lungs or other serious disease. Arrest of the cutaneous secretion has been one of the first causes, and if we now restore this secretion, in all probability the disease will be arrested.

The character of the remedy used to produce sweating, will vary in different cases. Thus, if the skin is cool, soft and flabby, with cold extremities, a stimulant diaphoretic as ginger or composition tea, with a hot stimulant bath, will be the best. If, however, the surface is hot, dry and constricted, an agent that will produce relaxation, will be best.



16. PENNYROYAL—(*Hedeoma Pulegioides*).—This common herb is a favorite of mine, and can be recommended as a very certain and pleasant, gently stimulant diaphoretic. Make a strong infusion and drink it hot the same time bathing the feet in hot water. It is one of the best remedies known in arrest of the discharge at child-birth, a proof of its power and utility in other affections.

17. CATNIP—(*Nepeta Cataria*).—Catnip is a gentle and soothing diaphoretic, especially applicable in the treatment of children. It is used in infusion, taken freely.

18. SAGE—(*Salvia Officinalis*).—Sage is another very good remedy, especially when the bowels seem affected. It is used in infusion, the tea being drank freely.

19. GINGER.—No better diaphoretic can be found in many cases of cold, than a strong infusion of ginger. Especially is this the case, if from recent exposure the surface of the body becomes cold, with a feeble circulation of blood. It acts as a gentle stimulant, improves the circulation, and excites the skin to action.

20. COMPOSITION.—The old fashioned composition powder is an excellent remedy in cases requiring a stimulant diaphoretic. An infusion may be made of one tablespoonful of the powder to a pint of water, and taken freely.

21. WATER-PEPPER—(*Polygonum Punctatum*).—The water-pepper, or smart weed, is another excellent remedy much better than many that are imported from a distance. It is given in infusion, in cases of cold, arrest of the secretions, etc.

22. PLEURISY ROOT—(*Asclepias Tuberosa*).—Of all the remedies employed to increase the action of the skin, this is my favorite. I prepare it by infusing one ounce in a pint of water, giving a wine-glassful as a dose. Should it be necessary to produce relaxation, half the quantity of the lobelia herb may be added. This remedy is especially applicable when the respiratory apparatus is affected, and

in diseases of children, as it exerts a soothing influence upon the nervous system.

23. DIAPHORETIC POWDER.—This is a remedy much used by physicians, and is made of opium, half an ounce; camphor, two ounces; ipecacuanha, one ounce; bi-tartrate of potash, six ounces. It quiets irritation of the nervous system, induces sleep, and causes free perspiration when given with warm teas. The dose is from two to five grains for the adult; for a child a year old I usually add five grains to four tablespoonfuls of water, sweeten, and give in doses of half a teaspoonful as often as required. In the latter case it is employed to relieve pain, quiet irritation of the nervous system, and produce sleep.

24. THE WARM FOOT-BATH.—This important means, so frequently recommended by the physician, is hardly ever carried out as it should be. The objects to be accomplished by it, are, first, by the application of continued heat to cause determination of blood to the extremities, thus removing congestion of internal organs, and equalizing the circulation; second, to cause relaxation of the skin, and promote perspiration, which it does in a very efficient manner. These objects, it will be noticed, are important ones, and yet I have frequently found where there was the greatest need for its influence, that it was so inefficiently used as to aggravate, rather than mitigate the disease. Thus the feet would be placed in a shallow basin of warm water, kept there for a few moments, and when taken out left wet, being in a short time colder and less freely supplied with blood, than before the use of the bath.

When a foot-bath is recommended, heat a sufficient quantity of water to fill a large wooden bucket, or other utensil, that will bring the water nearly to the knees; have it as hot as the patient can bear his feet in it, and keep up the temperature by additions of hot water every few minutes. It should be used in this way from fifteen minutes to half an hour, or until the desired influence is



obtained, which may be known by the soft, moist condition of the skin. When the feet are taken from the water, they should be thoroughly dried, and a pair of woolen stockings drawn on. When it is used to counteract determination of blood, as to the brain, or in acute inflammation, an addition of mustard to the water is frequently of great service.

25. COMMON VAPOR BATH.—The vapor of water is a most excellent means of inducing perspiration, and relieving disease that is caused by its arrest. Having made up your mind to use a vapor bath, put two or three bricks or irons on the fire to heat; set a bucket partly full of boiling water under a wooden-bottomed chair, and, divesting the patient of his clothing, sit him on it, with a blanket, investing both him and the chair, and closely fastened around the neck. Now take the hot brick or iron in a pair of tongs, and slowly immerse it in the water, to produce the required quantity of steam. It may be continued until the patient perspires freely, giving him at the same time some diaphoretic infusion, and having his feet in hot water. When the desired effect is produced, rub him dry, and pack warmly in bed. No means of treatment will be found more effectual than this in many cases.

If the patient can not sit up, as in case of rheumatism, the vapor bath may be used in a different way. Heat three bricks, so that they will vaporize water, but not burn the clothes; wrap them in flannel cloths wrung out of vinegar or water; place one near the patient's feet, another near the hip, and the third near the opposite shoulder. Have the bed-clothes loose over the patient, but tucked in around the neck to prevent the escape of the vapor. This can be continued as long as may seem necessary, and will be found a most effectual way of establishing secretion from the skin.

26. SPIRIT VAPOR BATH.—This is a favorite means of inducing perspiration with many physicians and families, but it must be used with care to prevent burning the



patient. Sit the person on a common wooden-bottomed chair, surrounding him with a blanket to prevent the escape of heat, and put his feet in hot water. Pour two or three ounces of alcohol, seventy-six per cent., in a saucer, and put under the chair, and set it on fire with a match or paper-lighter; when it is burned out, if necessary, withdraw the saucer, and add an additional quantity of alcohol, and proceed as before. It is called a vapor bath, but is, in fact, a *hot-air* bath, and bears a very close relation to the Turkish bath, so much talked of.

27. THE WARM BATH.—Warm water is used as a partial or general bath to induce perspiration, equalize the circulation, and lessen irritation. If a child is restless or feverish, I very frequently direct that it have an entire bath from fifteen minutes to half an hour, in water as warm as will feel pleasant to the hand. Any vessel sufficiently large to receive the child, will answer as a bathing-tub.

28. BLANKET PACK.—When there are no conveniences for bathing, I would direct, in case of an adult, that a blanket be wrung out of water, as warm as the hands can bear, wrap it closely around the patient, and pack him in bed, covering warmly. From half to one hour is the usual time for the person to remain in the pack, when he may be rubbed dry, or in some cases sponged with cold water.

29. WET SHEET PACK.—The wet sheet pack is employed to restore secretion from the skin, and is a most excellent remedy in many cases. The object is, by applying cold water, to establish reaction, relax the skin, and by the vigorous circulation induced, establish secretion from the entire sudoriferous glands of the body. It may be safely used with such persons as have sufficient power of reaction to become warm in a few minutes after its application, and is contraindicated in those of feeble reactive powers, and who have organic disease of internal organs, as of the lungs, heart, etc. I have used it to a considera-

ble extent, and, from my personal experience, would prefer it to any other means, to remove a severe cold and the feverish symptoms that attend it.

The pack is easily applied—wring a sheet out of moderately cold water, wrap it closely around the person, put him in bed, and cover warmly. The first sensations of chilliness are very unpleasant, but in a few minutes they are succeeded by an agreeable warmth of the surface; the irritation of the nervous system produced by disease disappears, and not unfrequently the patient sleeps. At the end of an hour, wipe the person dry with a coarse towel, using brisk friction, and put on dry clothing.

30. SITZ BATH.—The sitz or hip bath may be used either warm or cold, and will be found very efficient in diseases of the pelvic viscera and bowels. I very frequently direct the warm sitz bath in dysentery and diarrhoea, and in painful and difficult menstruation.

31. LOCAL BATHS.—Local baths may consist either in immersing the part in water of proper temperature, or in applying the water to the part by means of several thicknesses of cloth. They are employed principally in local diseases, for the relief of pain and inflammation, but they also exert a marked influence upon the general system. As examples of their use, we may cite the case of colic, or other pain in the bowels, in which relief is most effectually given by the application of a towel wrung out of cold water and applied; a case of sore throat, in which a towel wrung out of cold water, and applied to the throat at night, gives relief before morning. Very many times the local application of cold water in this way, the part being covered to prevent evaporation, will give very marked relief, and no injurious consequences can result. It is often far preferable to the use of costly liniments.

32. THE HOT FOMENTATION.—Hot fomentations are frequently ordered in acute inflammation, and other painful affections. Sometimes no other influence than that derived from the heat and moisture of the fomentation is

to wet them, then stir in corn-meal to give it  
ence.

*stramonium* or *jimson-weed* fomentation, is one of  
t that can be used in inflammatory and other pain-  
ctions. In the summer and fall, it may be made  
green leaves; in the winter and spring, of the dried

Bruise the leaves with a hammer; put them in a  
vessel over the fire, and moisten with water or  
; place in a bag of thin muslin or mosquito bar,  
ply hot.

r agents are formed into fomentations in the same  
s the *tansy*, *hoarhound*, *catnip*, *lobelia*, etc. Again,  
quently use simple water, or equal parts of water  
egar or whisky. Sometimes with the addition of  
e of *stramonium*, *lobelia*, *veratrum viride*, opium  
r agents. In this case the liquid is placed by the  
ere it will keep hot, five or six thicknesses of flannel  
ry muslin, of sufficient size to cover the part, being  
out of it and applied hot. A good plan is to take  
icknesses of flannel, and quilt between them suffi-  
otton wadding to make it, say one inch thick.

sing the fomentation it should always be recollected  
ntinuous equable heat is of the greatest impor-

Hence sufficient should be prepared to form  
that while one is applied, the other may attain the  
te heat. Fomentations, as a general rule, require



depend, and where they are not carried out, this means, which in many cases is of the utmost importance, instead of doing good, actually aggravates the disease.

### DIURETICS.

Diuretics are remedies that increase the secretion of urine, and may be very properly divided into two classes—those that increase the amount of water discharged, and those that increase the solid constituents of the urine. It might be supposed that any agent that would increase the amount of urine passed, would at the same time increase the solids of the urine which represent the excretion, but this is not the case. All the vegetable diuretics increase the amount of the urine, but very few of them increase the urea or other solid elements. Increase of the solids is best obtained by the administration of the diuretic salts, and these are the only agents that will prove effectual, when disease is produced by retention of these materials.

As we have heretofore noticed, the kidneys remove about an ounce of exceedingly deleterious material from the body every twenty-four hours. It can not be retained with safety, even in small quantities, and its elements, circulating in the blood, give rise to many morbid symptoms. Whenever disease terminates in health, we invariably find that the secretion of urine is very markedly increased, and experience tells us that the progress of disease may be arrested by such agents as will re-establish the secretion. In some cases, all we desire is to increase the quantity of water, with such increase of the solids as it will naturally wash away; hence we employ vegetable diuretics.

The secretion of urine may be *suppressed* to a greater or less extent, the kidneys failing to perform their function, in which case remedies are indicated that favor such secretion, or remove the cause of the arrest, if this can be

d. In other cases the urine is secreted, but *retained* in the bladder, in which case remedies that will promote excretion, and not increase the quantity, are the ones required.

**WATERMELON SEED**—(*Cucurbita Citrullus*).—Water-melon seed made into an infusion, by adding a couple of spoonfuls of the bruised seed to a pint of water, is a efficient and mild diuretic. It may be drank freely, and will increase the amount of water passed. It is somewhat beneficial in irritation of the urinary passages.

**PARSLEY**—(*Apium Petroselinum*).—The root of the common parsley, made in infusion, is a mild, unirritating diuretic, increasing the flow of urine and lessening its viscosity.

**MARSH MALLOWS**—(*Althæa Officinalis*).—Marsh mallows is one of the simplest and best diuretics for family use, being demulcent and soothing to the stomach, and acting on the urinary organs. It is given to increase the quantity of water when the urine is scanty, and to lessen irritation in cases of burning or pain in passing water. It is made in infusion, one ounce being added to a pint of water, and drank freely when cool.

**MULLEIN**—(*Verbascum Thapsus*).—The leaves of mullein made into an infusion will prove diuretic, and may be used in a similar manner to those above mentioned.

**SPEARMINT**—(*Mentha Viridis*).—Spear-mint is an efficient diuretic in cases of scanty secretion of urine, and pain in the loins or region of the bladder, and in cases of burning and difficulty of passing water. It is made in infusion, being steeped in boiling water, and drank freely.

**UVA URSI**.—The uva ursi is a tonic and astringent diuretic, and is employed in cases of debility of the kidneys, and when there is mucous discharge from the urinary passages. Cases where it is indicated will usually be under the charge of a competent physician.

39. HONEY BEE—(*Apis Mellifica*).—In cases of retention of urine, we do not wish to increase the secretion of the kidneys, which would but add to the distention of the bladder, but desire to increase the power of the latter organ to expel its contents. Add twelve honey bees to half a pint of boiling water, and when cool give a table-spoonful every five minutes.

40. SWEET SPIRITS OF NITRE.—This remedy is, perhaps, more widely known and used than any other diuretic. It increases the amount of water secreted, and but slightly the solids. In some cases, it acts as a febrifuge, and relieves irritation. The adult may take it in doses of from one-fourth of a teaspoonful to a teaspoonful; a child two years old about ten drops, repeated every one, two or three hours.

41. ACETATE OF POTASH.—As a remedy to increase the amount of solids removed by the urine, there is no better agent than this. It does not generally increase the amount of water to any great extent, but the amount of urea is frequently doubled. It is one of the best remedies in persistent headache with which I am acquainted, and among our most efficient agents in the treatment of fever and inflammation. I also claim that it is one of the best *alteratives*, sometimes curing scrofula and similar diseases when other remedies fail. Add half an ounce of acetate of potash to four ounces of water, and take a teaspoonful every two or three hours. If you are far from a druggist or physician, and can not obtain it, take a table-spoonful of saleratus, and add enough cider vinegar to render it slightly acid, and the water to make four ounces; you will have a very good preparation, and may use it in the same doses.

42. CREAM OF TARTAR—(*Bi-Tartrate of Potash*).—Cream of tartar may be used as a diuretic in place of acetate of potash, though it is not so good. Add half an ounce of cream of tartar to four ounces of water, and take a teaspoonful every two or three hours.



43. HOT APPLICATIONS.—In cases of suppression of urine, a large flannel cloth, four or five thicknesses, wrung out of hot water, and applied to the back across the loins, will start the secretion when all internal remedies fail. I am positive in making this statement, as I have seen its beneficial effect in a large number of cases. In young infants who have not passed water, or who do not pass it freely, there is generally *retention* in the bladder. In these cases the warm cloths are applied over the lower part of the bowels and urinary organs. If there is retention of urine in the adult, we employ the hot sitz bath, or cause them to sit over the vapor of bitter herbs, as hops, tansy, etc.

### SEDATIVES.

Sedatives are remedies that control irritation of the nervous system to some extent, and lessen the force and frequency of the heart's action. In fever and inflammation, if the finger be placed over the artery on the anterior and outer side of the wrist, it will be noticed to beat more frequently and with greater force. The blood is circulating with greatly increased rapidity, and as long as it does so, fever will continue. Sedatives are medicines which will lessen the frequency of the pulse, and diminish the momentum of the blood; and as they do this, they relieve the principal febrile symptoms, rapid circulation and increased heat, and place the system in such condition that secretion can be established from the skin, kidneys and bowels.

They are very strong medicines, as we should suspect, from the parts on which they act, and should be employed with care; if so, their use is no more dangerous than more simple things. In fact, all medicines must be employed with care, knowing what we are doing, and it would be well if it could be generally impressed upon the people, that they are dangerous things to tamper with. I will only name two of this class, and will here remark,

that when kept in the house, they should be so prominently marked that they can never be mistaken for any thing else, and always used in the exact way they are recommended.

44. **TINCTURE OF ACONITE ROOT.**—Aconite when taken in sufficient quantities is an irritant poison, and even when administered in the ordinary doses of the books, it does not possess any valuable properties. We give it in very small doses to obtain its most marked effect, and in these it is impossible to produce injurious results. We use it in all cases of fever and inflammation, and though its action is slow, it will most certainly control them.

In using it, take a common tumbler of cold water, one-fourth of a pint, and add three drops of the tincture for a child two years old, five drops for a female or delicate person, or ten drops for a stout adult; the dose being a teaspoonful every one or two hours.

45. **TINCTURE OF VERATRUM VIRIDE.**—Veratrum produces an influence very similar to the aconite, and may be used in its stead. If given in large doses it produces nausea, vomiting, and irritation of the stomach; in small doses it lessens the frequency and force of the pulse, and the heat of the skin, quiets irritation of the nervous system, and favors secretion from the skin and kidneys. I direct its use in the same manner as the other remedy. To a tumblerful of cold water, add ten to twenty drops of the tincture, and give a teaspoonful every hour until the desired effect is produced. To a child two years old five drops to a tumbler of water, in doses of a teaspoonful, would be the proper quantity.

In describing the *Family Medicine Case*, these two remedies occupy a very prominent place. Of all the remedies in the *materia medica* I prize these the most, and in recommending them for family use in slight, simple fevers, where a physician would not be called, I believe I am doing a great service to the people.



tone and strength of the body. In a majority of cases they are bitter substances, and some have even supposed that all bitters would prove tonic, but this is an error. Another class of agents that are with difficulty distinguished from tonics, are termed *restoratives*, as they add some material to the body that is deficient. Iron is the type of this class, and is one of the principal agents used to increase the quantity of the blood, it being a constituent of that fluid.

In general terms, it may be stated that any agent that will increase the appetite and power of digestion, will prove tonic. Thus remedies, that remove causes of disease would be indirectly tonic in their action, as an emetic in cases of morbid accumulations in the stomach, cathartics in constipation of the bowels, diaphoretics and the use of baths when the skin is at fault, etc. It will not always do to take it for granted that because persons have a poor appetite and imperfect digestion, they require bitters. In very many cases, they not only do not need them, but the tonic and stimulant are absolutely injurious. The cause of the imperfect appetite should be ascertained by a competent physician, and medicines prescribed accordingly.

In some cases, however, bitter tonics can be taken with advantage without previous preparation. They are those in which there is no perceptible disease of any part of the body; the bowels are regular, there is good excretion of urine, and normal action of the skin, but the appetite is poor and digestion difficult.

46. **YELLOW ROOT** — (*Hydrastis Canadensis*). — Yellow root is one of our best bitter tonics, improving the condition of the stomach, giving the patient an appetite, and facilitating the digestive process. Under its use the patient eats more, digests his food sooner and better, and improves in strength and flesh. A very good bitters may be formed by adding one ounce of finely pulverized hydrastis to four ounces of whisky and twelve of water. It should be well shaken, and taken in doses of a tablespoonful three times



a day. If iron is needed, add to the preparation one drachm of carbonate of iron.

47. DOGWOOD—(*Cornus Florida*).—The dogwood bark is a very good tonic, and may be used either in infusion or a tincture made with alcohol or whisky.

48. WILD CHERRY—(*Prunus Virginiana*).—Wild cherry bark is another agent that may be used with advantage in some cases. It is employed in the same manner as the preceding, usually in combination with other articles of its class, and especially in cases where the lungs are affected.

49. POPLAR.—The bark of both the white and yellow poplar possesses tonic properties, and frequently form a constituent of home-made bitters. The three agents last named may be used in equal proportions, and will sometimes give good satisfaction.

50. COLLINSONIA.—The collinsonia is my favorite remedy in many of the cases requiring an agent to increase the appetite and digestion. Its action is gentle, but persistent, not only increasing the tone of the stomach, but strengthening the nervous system, and improving secretion from the skin, kidneys and bowels. I direct fluid extract of collinsonia and simple syrup, equal parts, a teaspoonful four times a day.

51. COMPOUND COLLINSONIA TONIC.—Take of fluid extract of collinsonia and simple syrup, equal parts, seven ounces; tincture of phosphorus, half an ounce; fluid extract of leptandra, one and a half ounces; citrate of iron, one drachm. This possesses, in addition to its tonic properties, phosphorus in a soluble form, for the nutrition of the nervous tissues, and iron to increase the red globules of the blood.

52. QUININE.—The active principle of Peruvian bark is the remedy that is principally used by all classes of physicians to arrest periodic disease. It has been used many times without either reason or common sense, and in combination with many deleterious medicines, and hence, in many sections of the country, it has fallen into disrepute

In my practice, in not one case out of a hundred, does it produce any unpleasant symptom, not even ringing in the ears. The patient is always prepared for its use by getting the stomach and bowels in good condition, and arresting the excitation of the vascular system by sedatives, and means to promote secretion from the skin and kidneys. Employed in this way, its action is certain, as mild as any other agent, and it has entirely passed from the system in twenty-four hours.

As before remarked, diseases which manifest periodicity, are those in which it is indicated, and in which it proves a specific—as ague, bilious fever, intermittent neuralgia, and similar affections. As a general rule, the system being prepared for its administration, from twelve to fifteen grains will arrest the disease.

In the fevers of children, and typhoid fever, we employ it in small doses, after the action of the sedative, in order to stimulate the nervous system. Take quinine, five grains; aromatic sulphuric acid, twenty drops; simple syrup, two ounces: the dose being a teaspoonful every three hours to a child two years old.

53. IRON.—Iron, though in small quantity, serves a very important purpose in the animal economy. The red corpuscles possess but a minute quantity of this mineral, and yet without this they would lose their vital properties, and no longer give a normal stimulus to the body. In order to their formation, a certain quantity of iron is necessary, and experience has proven that if this is added to the blood in many cases, the red corpuscles will be increased in quantity; hence iron is the most efficient medicine in all cases of anemia. But a small quantity is necessary, and it may be taken in any of the many efficient forms in which it is found at drug stores. The carbonate of iron is its most common form, and this, added to Catawba wine, in the proportion of two drachms to the pint, will furnish the iron and an agreeable stimulus.



*STIMULANTS.*

Stimulants are medicines which produce a temporary increase of one or more of the vital functions. They act entirely upon the nervous system, and in some cases seem merely to call forth the force of the system, leaving it subsequently exhausted. In others, however, they seem really to increase nervous force, for if they did not, we would always have, as a result of their use, a depression corresponding with the primary excitation—which is not the case. Again, we may maintain a certain degree of stimulation for an indefinite period, by continuing the use of the stimulant, which we could not do, if it merely expended nervous force without causing a reproduction of it.

We must, however, carefully distinguish between *nervous* and *vital* force; for nervous force may exist in excess when the vital force, or that power that preserves life, is depressed. When there is failure in vital energy, no stimulant will serve to prolong life, for it can not communicate vital power. But death may be occasioned by more or less sudden arrest of nervous force, the body retaining all its capacity for living; in such case a stimulant calling forth the necessary nerve force to continue the different functions, will save life.

The first effect of stimulants is that of topical excitants. When first taken into the stomach, they stimulate the mucous membrane and muscular coat to increased activity, and the food is more readily digested, and chylosis facilitated. This local stimulating influence is extended to every portion of the body by sympathy, and the whole system participates in the excitation. Absorbed into the blood they act directly upon the nervous system, and call forth increased innervation. As the result of this, the contractions of the heart are increased in force and frequency; the pulse becomes more energetic and frequent; respiration is accelerated; animal heat augmented; the countenance is enlivened, and the intellectual and physi-



cal powers increased. They produce a temporary exhilaration of mind, and revive and elevate the spirits—in word, the phenomena of health are active when the system is under their influence, unless overpowered by disease.

This influence may be continued for some time, if the agents are used with care, and in many cases the system will have had time to regain its normal condition; if not, the vitality, or organs and parts acted on and stimulated, will gradually become exhausted, requiring a constant increase in the quantity of the stimulant to produce the desired effect, until at last they cease to respond to its action at all. Taken in excess, this effect is observed at a much earlier period, and in addition we have the inflammatory condition of the stomach, and some other parts, produced by the topical stimulation.

54. ALCOHOLIC STIMULANTS.—As a general rule, alcoholic stimulants should only be employed as continuous medicines, under the advice of a physician. In some cases they answer an admirable purpose, increasing the appetite and digestion, and stimulating better innervation, circulation, secretion and excretion. Still, as we have already noticed, their influence will at length be exhaustive, as the organs and entire system will require larger and larger quantities, until at length their influence is almost entirely lost.

As a temporary remedy in cases of exhaustion, Bourbon whisky or brandy may be given in such quantities as will restore normal action of the nervous system and circulation of the blood. When they are to be continued for a greater length of time, ale, porter and beer will answer a better purpose, and in many cases I prefer catawba wine, with the addition of sufficient simple sirup to render it pleasant. These stimulants may be used when there is no apparent structural or functional disease, further than an enfeebled circulation and innervation. If the debility is the result of disease of any organ or part, of

course the proper course of treatment would be to remove such disease.

55. CAMPHOR.—Camphor is a nervous stimulant, and may be employed when a temporary influence of this kind is desirable. Smelling a strong tincture will sometimes relieve nervous depression, giddiness, faintness and pain in the head, as will also bathing the face, head and neck with the same. A half teaspoonful taken internally, will relieve cramps in the stomach, colic and choleraic diarrhoea. As a local application, it may be applied in sprains, bruises, frost-bites, and whenever a local stimulant is desired.

56. TINCTURE OF PRICKLY ASH—(*Xanthoxylum Frazi-neum*).—Tincture of prickly ash is an excellent stimulant, especially when the bowels are debilitated. It is used with advantage in cramps of the stomach, colic, cholera morbus, and Asiatic cholera, and in congestive diseases, as congestive chill, remittent fever, etc. The dose is from half to one teaspoonful in sweetened water as often as necessary.

57. CAPSICUM.—Capsicum is a powerful local stimulant, to whatever part it may be applied. Taken internally it produces a feeling of warmth in the stomach and bowels which is very persistent. Applied locally, it produces a feeling of warmth, and the part becomes red, full and warm, showing increased capillary circulation. It is one of the best agents that can be used in habitually cold extremities, bathing the parts once a day with the tincture pure, or diluted with one or two parts of water, being sufficient for the purpose.

58. COMPOUND TINCTURE OF CAJEPUT—(*Life Drops*).—Take equal parts of oil of anise, oil of cajeput, and oil of cloves, one drachm, alcohol two ounces, mix. This is the most valuable internal stimulant in exhaustive discharges from the bowels with which we are acquainted, and one of the most efficient in all cases where a prompt, diffusible stimulant is necessary. It is almost a specific in cholera



morbus, one of the best remedies in Asiatic cholera, and answers an admirable purpose in congestive chill and sunstroke. In cholera morbus and cholera we give it in teaspoonful doses every few minutes, until reaction commences, when the dose is lessened. It quiets irritation of the stomach, and checks vomiting.

59. ARNICA.—Arnica is a very valuable local remedy for family use, but its internal administration should be under the care of a physician. We use arnica locally in all cases in which a part has had its vitality depressed by accident or disease. Bruising or contusion of the flesh, from whatever cause, demands its employment. It is generally used diluted with one or two parts of water, and applied by means of cloths kept saturated with it.

60. MUSTARD.—Mustard is a very valuable topical stimulant, and relieves internal pain and disease, by producing determination of blood and nerve force to the part to which it is applied. It is used with advantage in almost all cases of internal pain, applied in the form of the mustard plaster immediately over the part.

THE MUSTARD PLASTER.—I have frequently heard the remark, "Oh! anybody can make a mustard plaster," but my experience is that everybody does not know how. Thus in a very serious case, where I wished a speedy action from the mustard, I found, after waiting patiently for half an hour, that the patient had not felt the application. Upon questioning the nurse who was positive as to her ability to prepare the plaster, I received the answer: "an' doother dear, an' didn't I mix it with flour, it was so strong, and didn't I cover it with a cloth to keep it from sticking." And sure enough it had been made as dry as possible, so that it had not moistened the cloth interposed between it and the patient's body.

To make a mustard plaster *right*, take a sufficient quantity of ground mustard, make it into a *thin* paste, with cold or warm water, spread it on thin muslin so that it saturates it, lay another piece on top, and apply the wet side



to the patient. This will produce rubefaction in from two to five minutes; then remove, and if desirable, repeat when the burning sensation ceases. A speedy action is best, I think in all cases, hence I never direct additions of corn-meal or flour, except when treating children.

### ALTERATIVES.

Alteratives are defined to be agents which change, in some inexplicable and insensible way, certain morbid actions and conditions of particular organs, or of the general system. They are administered to counteract certain morbid habits of the body, or cachectic states of the constitution, and to re-establish the healthy functions of deranged organs.

We suppose, from their known effects, that alteratives may act in the following ways: 1. They may change the condition of the blood by a direct influence exerted upon it after the absorption of the remedy. 2. They may in some manner effect the removal of the worn-out tissues, and favor the process of nutrition. 3. They may neutralize or change the character of decomposing or noxious agents that exist in the system, as the result of some pathological process, or that may have been introduced from without. 4. They undoubtedly favor elimination by stimulating the excretory organs to increased activity.

In many morbid conditions of the system, in which this class of agents is indicated, in addition to medicines, a change of air, diet, habits, scenery, employment, society, etc., will tend in a very marked manner to improve the mental and physical condition of the patient, and co-operate with the medicinal measures employed in restoring him to a state of health. The cold shower-bath, douche, alkaline or salt hand-bath, the medicated vapor-bath, etc., by keeping the skin in a healthy condition, and by their influence upon the nervous system, also become valuable auxiliaries to the remedies under consideration. In addi-

tion to these measures, especial attention should be paid to the regimen of the patient. A diet mild and unirritating in its character, easy of digestion, and nutritious, if taken in moderate quantities, will greatly contribute to the restoration of health; it furnishes the necessary quantity and quality of chyle for the formation of the blood, and thus acts as a healthy excitant to the vascular and nervous systems, furnishing healthy materials for the nutrition or renovation of impaired organs.

61. COMPOUND SYRUP OF STILLINGIA.—This is one of the most efficient vegetable alterative compounds that can be used. It stimulates normal action of all the excretory organs, improves the appetite, digestion, and assimilation. It may be taken in doses of from a teaspoonful to a tablespoonful, three or four times a day.

62. COMPOUND TINCTURE OF CORYDALIS.—(*Scudder's Alterative*).—This is prepared of equal parts yellowdock, turkey pea, tag alder and may apple. It is an excellent alterative in scrofula, secondary syphilis, and other diseases of like character. The dose is one or two teaspoonfuls four times a day.

63. COMPOUND SYRUP OF SARSAPARILLA.—This is an official preparation, and is far superior to that furnished by patent medicine men. Its action is similar to the ones just named, taken in doses of a tablespoonful three times a day.

64. YELLOW DOCK, BURDOCK.—(*Rumex Crispus*, *Arctium Lappa*).—Both of these agents are very good vegetable alteratives, and may be employed in cases in which such agents are indicated. The root is the part used, and it may be taken in infusion, syrup, or tincture, in doses of a wine-glassful of the first, and a tablespoonful of the others.

65. ELDER.—(*Sambucus Canadensis*).—An infusion of the flowers of the common elder forms a very pleasant and effectual alterative for children, in scrofulous or skin diseases. They are slightly diaphoretic and laxative, and improve the appetite and digestion. The bark may be



used to arrest hemorrhage from any part of the body, check diarrhœa, and excessive mucous discharges.

70. TANNIC ACID.—Tannic acid is the astringent principle of all the vegetable astringents, and may be obtained from any of them. It is used in diarrhœa, and hemorrhage from the stomach and bowels, in doses of five or ten grains.

71. GALLIC ACID.—This remedy is very closely related to the one just named, but differs from it in not being a topical astringent, but readily soluble in the secretion of the stomach, from which it is absorbed and carried into the blood. It is one of the best remedies in cases of hemorrhage that we possess, though worthless to check diarrhœa. It may be given in doses of five grains, often as seems necessary.

72. OAK BARK.—The various species of oak bark are decidedly astringent, and may be used for this purpose in many cases where other agents can not be obtained. It is prepared for use by adding two tablespoonfuls of the bark (white oak is best), to a teacupful of boiling water when cold, it may be given in doses of a tablespoonful every one or two hours.

73. CRANE'S BILL—(*Geranium Maculatum*).—This is a mild but efficient astringent, and may be employed to check diarrhœa, and in hemorrhage. One ounce of the root is added to one-half pint of boiling water, strained when cold, sweetened, and given in doses of half a wine-glassful every one or two hours.

74. CATECHU.—Catechu will be found prepared in the shops in the form of tincture, which is frequently used to check diarrhœa, in doses of a teaspoonful every one or two hours.

75. LOGWOOD—(*Hæmatoxylon*).—Logwood is a mild, but irritating astringent, and adapted to diarrhœa and dysentery. An infusion of the bark may be made and taken in doses of a tablespoonful, or one drachm of the extra



may be dissolved in half a teacupful of boiling water, and taken in teaspoonful doses every one or two hours.

76. BLACKBERRY — (*Rubus Villosus*).—Blackberry root made into an infusion, cordial or syrup, is a pleasant and mild astringent, and is used to check diarrhœa. The leaves of the *red* raspberry may be used for the same purpose, and will be found an excellent remedy with children.

77. WILD INDIGO—(*Baptisia Tinctoria*).—This agent is but slightly astringent, and I speak of it here more especially as a remedy to check fermentation in the bowels, and relieve irritation. It is one of the best, if not the best, remedy for sore mouth in children, especially if there is ulceration; it will relieve those cases of diseased stomach in which the tongue is heavily coated, the breath fetid, and the appetite and digestion poor. Add a tablespoonful of the bark to half a teacupful of boiling water, strain when cold, and give in doses of a teaspoonful every one or two hours.

78. NEUTRALIZING CORDIAL.—This is prepared by taking the compound powder of rhubarb, heretofore spoken of, eight ounces; oil of cinnamon and erigeron, equal parts, one fluid drachm; alcohol, half a pint; water, two pints; sugar, two pounds. Infuse the powder in the water (boiling), express and strain, then heat the liquor, dissolve the sugar in it, and, while cooling, add the alcohol and oils previously mixed.

I introduce this here, not because of its direct astringent action, but because it is one of the best remedies that can be kept in the house for common diarrhœa and derangement of the stomach and bowels. The dose for a child three years old would be about a teaspoonful every one or two hours; for an adult, a tablespoonful. It should be continued until the stools become dark, resembling the color of the medicine; afterward give in small doses.

**ANTISPASMODICS.**

**Antispasmodics** are remedies which counteract spasm by relieving the conditions upon which it depends. Spasmodic action depends upon irritation of the nervous centers, either from excitation and determination of blood to them, or from some irritation of a distant part of the body, which is transmitted by the nerves to their origin. Thus, in one case, we will have convulsions from disease of the brain and spinal cord, in another from teething, irritation of the stomach, or worms.

Of course, as the cause of spasm differs in different cases, the remedies used to combat it will differ. Thus if spasms are induced by eating too freely of green fruit, an emetic will be the surest remedy; if from worms, we give vermifuges, and if from determination of blood to the brain and spinal cord, we use such means as will arrest the irritation. I will name but three agents of the class:

79. **ASSAFETIDA.**—This fetid gum-resin is a stimulant to the stomach and bowels, relieves pain and flatulence, and quiets irritation of the nervous system. It may be given in the form of a pill to the adult, but the child will take the tincture best, the dose being from one-fourth to one teaspoonful as often as necessary.

80. **LOBELIA.**—Lobelia is a powerful antispasmodic, producing relaxation of the entire system, and quieting nervous irritation. We usually employ it in the form of the *antispasmodic tincture*, a tincture of equal parts of lobelia, capsicum and ictodes. To a child two years old, I would give one-third of a teaspoonful in sweetened water every five or ten minutes until the spasms had ceased; if it could not be taken by mouth, add two teaspoonfuls to half a teacupful of warm water and use it as an injection.

81. **GELSEMINUM.**—Gelseminum is a powerful relaxant and antispasmodic, and should be used with great caution. I employ it principally to prevent the occurrence of spasms.

in diseases of children. If I notice twitching of the mouth and fingers, or extreme restlessness and contraction of the face, I order tincture of gelseminum, five drops every one or two hours to a child two years old, and feel confident it will give speedy and certain relief. It may be employed for the relief of convulsions in the same doses every few minutes.

### EXPECTORANTS.

Expectorants are remedies that increase or facilitate expectoration of mucus from the air passages, and thus relieve cough, difficult breathing, and other symptoms that attend disease of the respiratory apparatus. They may do this by allaying inflammation of the mucous membrane, which, in its first stages, always diminishes the normal secretion of mucus, or by stimulating this membrane when relaxed, causing an increased flow of blood to it, and increased action of the mucous follicles, by rendering it thinner and less viscid, enabling the patient to bring it up; or lastly, by exciting an action of the respiratory muscles, causing an evacuation of mucus already secreted, as in the act of coughing or vomiting.

Expectorants may be divided into three classes: those that produce nausea and relaxation, and increase the secretion of mucus—*nauseant expectorants*; those that quiet irritation of the nerves distributed to the air passages—*demulcent* and *narcotic* expectorants; and those that stimulate the mucous membrane and check its secretion—*stimulant expectorants*.

If cough, pain, or difficult breathing is attended by dryness of the mucous membrane, or scanty secretion, the first class of agents are appropriate. If there is a tickling sensation in the throat or any part of the air-passages producing cough, there being sufficient secretion, we would use the second class. But, if considerable quantities of mucus was raised, and the cough seemed for the purpose



of removing it, then the third class of remedies, that diminish the secretion, should be used.

82. COMPOUND SYRUP OF LOBELIA.—Take of lobelia herb, four ounces; bloodroot, two ounces, and macerate them in two pints of vinegar for one week; then strain with pressure. Take pleurisy root, four ounces; Solomon's seal, two ounces; cover with boiling water and keep hot one day, adding water so that when strained, two pints shall be obtained. Put both in a vessel, bringing the liquor to a boil, and add three pounds of loaf sugar.

This will make a more efficient expectorant of the first class than can be obtained at the stores. It relieves cough, and is very efficient in croup, and in all cases where it is desirable to increase secretion from the air passages. It is also an excellent diaphoretic, and may be used in all cases of cold.

Any of the nauseant emetics may be used as expectorants, as the ipecacuanha, lobelia, sanguinaria, eupatorium etc.; and temporary preparations may be made by combining their tinctures or sirups.

83. COMPOUND TINCTURE OF OILS OF STILLINGIA AND LOBELIA.—Take oil of lobelia, one drachm; oil of stillingia, oil of cajeput, equal parts, two drachms; alcohol, 98 per cent., two ounces, mix. This is the remedy, par excellence for mucus and spasmodic croup, and should be kept in every family where the children are predisposed to this disease. We give it internally, one drop on a lump of sugar every quarter, half, or one hour, and at the same time apply it freely to the throat externally. In chronic bronchitis, laryngitis, and many chronic coughs, it will be found a most excellent remedy in doses of one or two drops on sugar, every three or four hours. It should be taken without water or other fluid, letting the sugar dissolve in the mouth and swallowing slowly.

Almost any demulcent will quiet cough, when it depends upon irritation of the nerves. Thus, we make a solution of gum-arabic, or isinglass, sweeten it with loaf

sugar, and slightly acidulate with lemon juice or vinegar, and let the patient take it frequently; or, we direct equal parts of vinegar, sugar and butter, with boiling water, to make a stew. Sometimes a portion of liquorice, dissolved in boiling water, and sweetened with sugar or honey, answers an excellent purpose.

84. SYRUP OF ELECAMPAINE.—Take of elecampane, spike-nard, equal parts, two ounces; sun-flower seeds, bruised, one ounce; macerate them in boiling water for twenty-four hours, strain with pressure, to make one pint, and add sugar to form a syrup. This may serve as the type of the second class of expectorants, and if desired it may be rendered slightly narcotic by the addition of paregoric, one or two ounces. The dose is from a tea to a table-spoonful, as often as may seem necessary.

85. STIMULANT EXPECTORANT.—Take syrup of senega, syrup of squills, syrup of balsam tolu, glycerine, equal parts, one ounce; mix. This may be taken as a type of this class of expectorants, and will possibly answer as well as any other combination. The dose would be a teaspoonful every two or three hours.

86. INHALATIONS.—Inhalation of the vapor of various articles has been much used lately in the treatment of diseases of the lungs. With the exception of two, they should always be used under the care of a reputable physician, as a person's lungs are equivalent to his life, and too important to be tampered with by quacks and mountebanks.

In cases of dryness of the air passages, constriction, and difficult breathing, much benefit will be experienced by inhaling the vapor of boiling water, water and vinegar, or vinegar alone. In the early stages of all acute diseases of the air passages, this will prove very effectual, but is especially beneficial in croup. The inhalation is easily used. Place a covered tin vessel on the stove or fire, and bring the water or vinegar to the boiling point, take it to the bedside, and let the patient hold his head over it at a rea-

sonable distance; throw something over the person's and the vessel to retain the steam; then lift the and let the vapor escape. It may be continued for a considerable length of time by slowly immersing a hot in the fluid.

### LINIMENTS.

Almost every family makes more or less use of liniment for bruises, sprains, pains in various parts of the body. I will give formula for such preparations as I deem for domestic use, premising that all the liniments and killers that flood the market are tinctures of essential or stimulants. You could hardly go amiss in making liniment, if you would take one or more of oils of sassafras, hemlock, organum, cloves, pepper, mustard, using sufficient alcohol to cut them.

87. FOR INTERNAL OR EXTERNAL USE.—Take oil of hemlock, oil of sassafras, oil of cloves, each two drachms; camphor, half an ounce; alcohol, 76 per cent., one pint; mix. This will give you a valuable stimulating liniment and an excellent internal stimulant in cases of colic, cramps of the stomach, cholera morbus, etc. A teaspoonful will be an appropriate dose internally.

88. CHLOROFORM LINIMENT.—Take equal parts of chloroform, tincture of aconite and tincture of opium, 3j; mix. It is the best local application for neuralgia that can be employed, and may be used in all cases of acute pain. It is an excellent remedy in toothache, applied to the tooth on a pledget of cotton.

89. VOLATILE LINIMENT.—Take strong aqua ammonia, one ounce; olive oil, two ounces; mix. An excellent stimulant application in cases of rheumatism, or pain in any part of the body. It should be applied by wetting flannel cloth with it, and covering to prevent evaporation. It soon produces redness of the skin, and will sometimes vesicicate.



**OINTMENTS.**

90. **MAYER'S OINTMENT.**—For common use in families Mayer's Ointment will answer a better purpose than any other. It is an excellent application to ulcers, inflamed breasts, sore nipples, and as a discutient in scrofulous swellings.

91. **ELDER OINTMENT.**—In the country I should advise the preparation of this ointment to take the place of all similar preparations. Take of the inner bark of the common elder a sufficient quantity, cut it fine, and put in a tinned vessel; cover the bark with fresh butter, and keep hot for six hours; now strain, and add pulverized camphor, one ounce to each pint of ointment. Nothing will be found to equal this preparation in milk scall, sores behind the ears, and on the neck of children, as a dressing for ulcers, boils, sore nipples, and in any case where a gently stimulating and soothing application is needed.

**EMOLLIENTS.**

Under this head we may include all those external applications that are employed for the purpose of softening and relaxing the part to which they are applied. They diminish the tension of the tissues, and soften and render more flexible the solid parts of the body. When oils, ointments, lard, etc., are applied to parts that are tense and resisting, they lessen cohesion, soften and relax the tissues, and many times prove very valuable. The same may be said of poultices, which soothe irritation, relieve inflammation, and are of great utility in relieving pain and promoting resolution.

*Poultices* are very important local applications in bruises, sprains, injuries, painful tumors, superficial or deep-seated inflammations, painful ulcers, etc. In the early stage of circumscribed inflammatory affections, these remedies are found to be of the greatest utility in effecting a dispersion

of the diseased action, and thus preventing suppuration and destruction of tissues. If, however, the period has passed during which they can prove beneficial as resorvents, they will still be found valuable, to relieve irritation, lessen pain, soften and relax the tissues, and promote suppuration and an early discharge of the purulent material. Their action depends in great part, upon the moisture they contain, and upon their shielding the surface from the action of the air.

**WATER AS A POULTICE.**—Water properly employed forms one of the most efficient and cleanly of these applications, and as it may be medicated to any extent, may be employed in almost all cases when a poultice is desirable. I direct its application in the following way. Take a soft towel, or cotton flannel folded several thicknesses, wet it in tepid or warm water, and apply to the part, covering with oil-silk, oil-cloth, or two or three thicknesses of flannel, to prevent evaporation. It may be renewed from time to time without removal, by removing the external wrappings, and wetting it with warm water. We derive all the advantage from it that we could from any simple poultice, inasmuch as it keeps the part continuously moist, and excludes the atmosphere. The main recommendations are, that it is cleanly, is easily prepared, easily renewed, there can be no decomposition, no retention of matter in contact with the skin, and an avoidance of all unpleasant odors.

As already remarked, this application may be medicated with any remedy that is deemed desirable. If we wish to use stramonium or *jimson-weed*, we boil the leaves, and employ the decoction; if we wish a hop poultice, we make a decoction of hops, and use in the same way, and with other agents. Or, we may medicate the water by the addition of a suitable quantity of a tincture to it, of opium, aconite, arnica, belladonna, stramonium, hops, etc. Usually from one to four ounces of these tinctures to a pint of tepid water, will be the proper proportion.

**BREAD AND MILK POULTICE.**—This is a very good application in minor cases, in boils, felons, inflamed wounds, etc. Take of soft, dry bread, a sufficient quantity, crumb it fine, and add milk slowly, stirring it all the time, until it is of proper consistence. As decomposition of the bread and milk takes place very rapidly, it should be renewed every three or four hours.

**SLIPPERY ELM POULTICE.**—Take of finely powdered slippery elm a sufficient quantity to form a poultice at least half an inch in thickness; mix with tepid water until it forms a thin paste, but not so that it will run when spread on a cloth. It should be renewed sufficiently often so that it will not become dry and adhere at the edges, which is very unpleasant in many cases. If powdered elm can not be obtained, take the green or dried bark, and macerate with hot water until it forms a thick mucilage, which may be spread on a cloth and applied, or it may be thickened with flax-seed, wheat-bran or flour.

**FLAX-SEED POULTICE.**—Take of ground flax-seed a sufficient quantity, and mix to the consistence of a paste, with hot water. It does not become dry, like other poultices, and hence is preferable when it can not be frequently changed.

**HOP POULTICE.**—Take of hops a sufficient quantity, cover them with boiling water, and let the vessel stand where it will keep hot for an hour, adding more water as it evaporates. Now strain through a coarse towel with considerable pressure, and thicken with wheat-bran or corn-meal. It may be applied hot or cool, as may be indicated, and is an excellent soothing application in all cases of inflammation.

**DOGWOOD POULTICE.**—Take of dogwood bark a sufficient quantity to make a strong decoction, add boiling water, and let it stand where it will keep hot for two hours. Now strain through a stout towel, and thicken with wheat-bran. It is one of the best applications that can be made to an abscess when it is discharging; to ulcers,



erysipelas, and in any case where we wish to obtain the influence of a poultice, and at the same time increase the tone and vitality of a part.

**ONION POULTICE.**—Onions form an excellent poultice in diseases of the chest, croup, inflammation of the bowels, and other cases of deep-seated disease in children. The onions may be either stewed or roasted until they are soft, and then beat to a pulp and applied.

**POTATO POULTICE.**—Take of large, fully ripe potatoes, a sufficient quantity, boil them with the skins on until they are mealy; remove the skins, mash them, and give the proper consistence by the addition of milk or warm water. It forms the best poultice I have ever used, in all cases of skin disease, where a remedy of this kind is needed to remove irritation.

#### *THE FAMILY MEDICINE CHEST.†*

Every family should keep such remedies in the house as will answer in trivial cases, and even to be given in the severer ones, until a physician can be obtained. The commoner crude medicines, or herbs, such as I have described, should be gathered when in their prime, in the summer and fall, carefully dried in the shade, and put away in a cool, dry place. They should be closely wrapped in paper, (or preferably placed in close boxes,) to keep the air from them, and care taken that each is plainly and properly marked.

It is quite an easy matter for most persons to obtain a supply of Catnip, Peppermint, Spearmint, Boneset, Pennyroyal, etc., for they grow plentifully almost everywhere. Besides these, however, we mention German Chamomile Flowers and crushed Black Cohosh (or *Macrotys Racemosa*). These should be procured from a reliable apothecary, so that only the fresh article be received. It is well to bear in

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† NOTE.—Written especially for this work, January, 1895, by W. E. Bloyer, M. D., Cincinnati, O. Editor Eclectic Medical Gleaner, etc.

mind, too, that age destroys the value of these crude medicines, and that a fresh supply of them, as well as of almost all powdered drugs, should be laid in each year and the old stock thrown away.

For many of the minor ills of the family a free use of an infusion of these herbs proves most beneficial. It is well to remember, that in a general way, Catnip Tea is an excellent remedy for the cross and fretful and feverish baby. It will oftentimes answer a better purpose in relieving the hot, dry skin, the irritable mucous membrane of the air passages, and of the intestinal tract, or scanty urine, and pain of a greater or less degree in the abdomen, than the stronger or harsher remedies.

Chamomile Tea is an excellent remedy for digestive wrongs of the child or adult. In infantile dyspepsia with irregular bowels, diarrhoea, flatulence, or colic, discharges containing curdled milk or other undigested food, and the patient is restless, irritable, and alternately flushed and pale, it should be given freely.

The Peppermint Tea, too, is applicable to stomachic troubles, with pain and vomiting, etc., etc. The Pennyroyal and Black Cohosh infusions are remedies for menstrual wrongs. For pain due to suppression from cold, one of them should be taken freely, and the patient thoroughly warmed by hot foot-baths, etc. These infusions are especially beneficial when used alone, or in connection with other remedies to be named presently.

In addition to these herbs, from which infusions are to be made, a few of the simpler remedies, which may be used in small doses, with entire safety, and with much certainty, should be kept in the house. The early administration of the proper remedy may prevent a severe attack of disease.

I think that most persons will be able to use the following medicines with very beneficial results. Let it be remembered that it makes no difference about the name of a disease; it is only the condition of the patient that suggests the remedy. If you can put your hand on the patient and say, *he is too hot*, the remedy is Aconite; it would make no



difference whether the disease be called fever, or *pneumonia*, or bronchitis. Again, if the sick person is dull and stupid, wanting to sleep all of the time, the remedy is *Belladonna*, without reference to the name or location of the disease. *Extreme care* should be taken with *all medicines*, and especially with these, as some of them are poisonous in overdoses. Follow the directions accurately, and do not depend upon them too long, before sending for the physician. The doses given here are of average size. For children under five years of age they should be lessened *one-fourth*; for babies under one year lessen them at least *one-half*. Use only one remedy at a time when there is but one indication, never more than two at one time, and then as directed here. †

- No. 1. *Aconite*.—The patient is *hot*, his pulse is frequent, he breathes quickly, *he has fever*. Use this remedy with extreme care, as overdoses of it are violently poisonous. Add *ten* drops of this medicine to *thirty* teaspoonfuls of water. Of this mixture give a teaspoonful every one or two hours.
- No. 2. *Gelsemium*.—The patient is not only feverish, but he is *restless*, his eyes are bright, his head is *hot*; he is *nervous* and excited. It can be used alone or with *Aconite*, as directed above. Add *thirty* drops of this medicine to *thirty* teaspoonfuls of water, and of this mixture give a teaspoonful every one or two hours.
- No. 3. *Belladonna*.—The patient is dull and stupid, drowsy, and wants to sleep much of the time. He may have much or little fever, and the remedy may be used alone, or in combination with, or in alternation with, *Aconite*. Add *ten* drops of this medicine to *thirty* teaspoonfuls of water, and of this mixture give a teaspoonful every one or two hours. This remedy, too, is very *poisonous* in overdoses.
- No. 4. *Rhus*.—The patient is not only restless and uneasy but is inclined to cry out sharply in his sleep; he complains of frontal headache, or frowns considerably; he is generally feverish, and the remedy may be given alone, or alternated or combined

†The size of dose recommended here applies to the medicines in this *Medicine Chest*.



with Aconite, as above. Add *eight* drops of this medicine to *thirty* teaspoonfuls of water, and of this mixture give a teaspoonful every hour or two. This drug is also *poisonous*.

- No. 5. *Ipecac*.—The patient has diarrhœa, or hemorrhage; or an irritation of the lungs, like bronchitis or pneumonia; he is usually feverish and Aconite as above may accompany this remedy also. Add *ten* drops of this medicine to *thirty* teaspoonfuls of water, and give of this mixture a teaspoonful every hour or two.
- No. 6. *Phytolacca*.—The remedy for sore throat, for quinsy, for diphtheria, and for enlarged lymphatic glands. The patient may, or may not, have fever. When feverish, Aconite in connection with this remedy is good treatment. Add *thirty* drops of this medicine to *thirty* teaspoonfuls of water, and give a teaspoonful of this mixture every hour or two.
- No. 7. *Bryonia*.—The remedy for pain in the chest, or cough from bronchial irritation, and for rheumatic pain. There is usually excitement and fever, and Aconite or Gelsemium, as directed above, may be combined with Bryonia, or given in alternation. Add *eight* drops of this medicine to *thirty* teaspoonfuls of water, and give a teaspoonful of the mixture every hour or two.
- No. 8. *Nux*.—This is the remedy for pain in the bowels, colic, nausea, vomiting or diarrhœa. There is no fever; and the tongue is broad and pale; and usually without coating. Add *eight* drops of this medicine to *thirty* teaspoonfuls of water, and give a teaspoonful of the mixture every half, or one or two hours. A little sugar may be added for children. *Poisonous* in overdoses.
- No. 9. *Apis*.—This remedy is used when the urine is scanty, and when there is pain or difficulty in passing it; also, when there is itching and burning of the skin. If there be fever, either Aconite or Gelsemium may be used in connection with it as directed. Add *ten* drops of this medicine to *thirty* teaspoonfuls of water, and give a teaspoonful of the mixture every hour or two.
- No. 10. *Pulsatilla*.—The remedy for nervousness, when

there is little or no fever. It is a woman's edy and very useful in bringing about the mens flow, when its absense is not due to pregrna. When combined or alternated with Macrotys usually more efficient for this purpose. Add *40* drops of this medicine to *thirty* teaspoonful water, and give a teaspoonful of this mix every hour or two.

No. 11. *Macrotys*.—This is the remedy for pain whe is muscular, intermitten or rheumatic; for p in the back, or loins, or limbs, when due to c or menstrual wrongs. It may be alternated combined with any of the above-named remedi. Add *forty* drops of this medicine to *thirty* t spoonfuls of water, and give a teaspoonful of mixture every one or two hours.

No. 12. *Stillingia Liniment*.—This is the remedy for cro. It should be applied locally by rubbing it in the throat, and on flannel about the throat; a given internally, one or two drops on sugar eve fourth or half hour. Aconite and Phytolacca, above given, are its companion remedies in the disease.

No. 13. *Triturated Podophyllin*.—1 to 100.—This is the remedy for diarrhœa and stomach troubles whe the tongue is dirty, coated, and broad and ful. Add one-half teaspoonful of this medicine to *thirt* teaspoonfuls of water, and give a teaspoonful o the mixture every hour or two hours.

No. 14. *Triturated Sulphur*.—1 to 10.—This is a *bloo* medicine. When the blood is impure, as is shown by skin affections and yellowness of the skin, give as much of this remedy, plain or in water, as will lie upon a silver dime, three times a day—morn-ing, noon and night. Continue its use for a month or two months.

No. 15. *Santonin*.—1 to 7.—This is the worm medicine, *par excellence*. Give of this medicine half as much as will lie upon a silver dime, ever four or five hours. Do not give it when the patient has high fever. Check the fever first. It also acts freely on the kidneys and colors the urine a very deep yellow.



- No. 16. *Chlorate of Potash*.—This is the remedy for a gargle in sore mouth or sore throat. For this use add a half teaspoonful to a glass of water and use it freely as a gargle every hour or two. For a bad odor from the breath or from the stools, add *one-fourth* teaspoonful of this medicine to *thirty* teaspoonfuls of water, and give a teaspoonful of the mixture every two hours.
- No. 17. *Compound Tincture of Cajeput*.—This is the remedy for cramping pains in the stomach and bowels, for cholera morbus, diarrhœa, etc., etc. It is an excellent cholera cure. Give from ten to twenty drops on sugar every twenty or thirty minutes until relieved.
- No. 18. *Neutralizing Cordial*.—This is an excellent remedy for stomach and bowel troubles generally; for pain, and diarrhœa. Usually the tongue is coated white and the discharges from the bowels, (in children,) are green. For severe pains and cramps combine it with the Compound Tincture of Cajeput. The cordial can be given in one or two teaspoonful doses every hour or oftener.
- No. 19. *Mayer's Ointment*.—This is an excellent remedy for corns, old sores, unhealthy ulcers, and for any use to which an ointment is applicable. It deserves a place in every medicine chest.
- No. 20. *Compound Powder of Jalap and Senna*.—This is a very useful remedy when a physic is needed. It acts thoroughly, copiously and quickly. Mix thoroughly one teaspoonful of this medicine in one-fourth cup of water, sweeten if you wish, and take it all at one dose. If it does not act in four or five hours repeat the dose.

Two ounce bottles of the *Specific Medicines* (half strength) and the other remedies are put up in a substantial wooden case, of neat design, carefully labelled, and with full directions. With a little study and care they are sure to prove satisfactory.

It will be sent by express, at purchaser's expense, on remitting \$5.00 to Lloyd Bros., wholesale druggists, Cincinnati, O.

Special agents for the sale of this *Book and Medicine Case* would address the publishers not Lloyd Bros.



*DIETETIC PREPARATIONS.*

Good nursing for the sick is of as much, if not of more importance than taking medicine, and one of the important parts of good nursing is careful attention to the diet. If a physician is in attendance, he will, in all probability give directions as to the kinds of food proper to be administered; and yet, if these are improperly prepared, they may do more harm than his medicine does good. Unfortunately, however, many physicians do not know, and can not, therefore, give intelligible directions for the diet of the patient, and it is left entirely to the discretion of the nurse.

Food is necessary in all diseases, to supply the materials for the repair of the tissues, and the production of animal heat. If no food is taken, the sick person will starve to death as soon, if not sooner, than if it was withheld in health. Few persons look at it in this light, and even physicians wonder that their patients die when they have kept their stomach and bowels in such condition that no food could be digested for two or three weeks. Though food is necessary, there are times at which it can not be given with advantage, and in all cases it must be selected with reference to the condition of the patient, and given in such quantities as may be easily digested.

It is difficult to lay down strict rules for the guidance of the nurse with reference to the kind and quality of the food to be given, and the proper period of the day when it is best appropriated. The following general rules will serve to guide the nurse to some extent, but much will be left to the good judgment of the medical attendant:

1. Solid food should rarely be given during the progress of an acute disease, as the stomach and digestive organs are not in a condition to furnish the fluids necessary for its proper comminution, and hence it does not digest but decomposes, giving rise to irritation and other annoying results.

2. As a general rule, the severer the disease, and the farther the system is from a condition of health, the lighter and more diluted should be the food. Thus, in a high grade of fever or inflammation, we would give *whey*, toast-water, thin farina or tapioca, weak chicken or mutton broth, etc.

3. In states of great exhaustion, the food should be concentrated, very nutritious, and yet deprived, as far as possible, of all material that can not be appropriated by the stomach. Thus we would give beef essence, concentrated chicken or mutton tea, farina, with milk, etc.

4. In all febrile and inflammatory diseases, the food should be given at that period of the day in which there is least vascular and nervous excitement, and it should never be forced on the patient when suffering from high fever.

5. Never give food when the patient is suffering from severe pain, as at such times it is impossible for the digestive organs to appropriate it.

6. If the tongue is heavily coated with a yellowish coat, a bad taste in the mouth, and a feeling of weight and oppression at the stomach, it is better not to give food, or at least give it in a fluid form and in small quantity.

7. Never force food on a patient when his stomach revolts at it, or if it produces nausea, oppression or pain. It is much better to wait until medicine or time has placed the stomach in condition to digest it.

8. When the digestive powers are much impaired, and it is important to give food to sustain the strength, it should be given in small quantities, and at regular intervals like medicine.

9. If there is an absolute demand for nourishment to sustain the strength of the patient, and it cannot be given by mouth, it is sometimes an excellent plan to administer it as an injection.

10. Much care is necessary during convalescence from disease, that the patient does not eat too much, or that

that is indigestible. The digestive organs are now enfebled, and if over-worked, there is not only an excess imperfectly elaborated material taken into the system, but the exhaustion is extended to the entire system, and impairs the functions of other organs and parts.

**GRUEL.**—Thin corn-meal gruel is an excellent diet drink in many diseases, but especially in small-pox and the eruptive fevers, and in acute disease of the respiratory apparatus. Put a pint of water on the fire, slightly seasoned with salt, and when boiling briskly, sprinkle in two tablespoonfuls of corn-meal, stirring it continuously until done, usually about five minutes. It is best when warm, and should be made frequently. Oat-meal gruel may be made in the same manner, and used in similar cases.

**TOAST AND WATER.**—Cut a large slice of wheat bread toast it evenly, and nicely brown, and put in a covered earthen-ware vessel and cover with boiling water. It will be ready for use in half an hour, and forms a very light and acceptable drink in acute diseases.

**JELLY WATER.**—Stir a tablespoonful of currant or other jelly into half a pint of water, keep it cool, and give as occasion requires, to remove the bad taste from the mouth. It answers an excellent purpose in fevers, being very grateful to the sufferer.

**BARLEY WATER.**—Wash clean two ounces of pearl barley, put it in a vessel with a quart of water, and boil slowly to one-half. It may be seasoned to suit the fancy of the patient, with lemon peel, catawba wine and sugar spices, etc.

**GUM-ARABIC WATER.**—To an ounce of gum arabic, add a pint of boiling water, and stir until dissolved. In many cases it is permissible to render it slightly acid with lemon, and to sweeten with loaf sugar. It is an excellent drink in acute diseases when the soothing influence of demulcent is desired.

**WHEY.**—Whey is very readily formed of fresh milk, by the addition of *rennet* water, catawba wine or vinega



Stir it in, set it in a warm place till the curd is formed, and has separated from the whey beneath; remove the curd carefully and the whey is ready for use. There is no better drink for the sick than this, when it is not deemed necessary to give warm fluids, as it is well borne by the stomach, refreshing to the patient, and affords considerable nutriment.

**APPLE WATER.**—Take three or four large, juicy apples, cut them in quarters, and bake them until thoroughly done and soft. Put them in an earthen pitcher, and pour on a quart of hot water, then let it stand where it will keep hot for half an hour, when it will be fit for use. It may be sweetened with loaf sugar if necessary, and if admissible flavored to suit the taste of the patient. It should be given cold.

**FARINA GRUEL.**—Heat a sufficient quantity of water, and when boiling sprinkle in sufficient farina to give it the desired consistence. Sweeten it with sugar, and if desirable add a small portion of brandy, rye whisky or wine. It is an excellent light diet in acute diseases, and in the diseases of children.

**TAPIOCA.**—Take three heaping tablespoonfuls of tapioca and wash it well in cold water; drain it, and pour on sufficient water to cover it, and let it soak for four hours. Now add as much more water and boil it until it looks quite clear, and flavor it to suit the taste of the patient, always having reference to the character of the disease. Sago may be prepared in the same way.

**SAGO, MAZINA, OR TAPIOCA PUDDING.**—Add three tablespoonfuls of sago, mazina or tapioca to a pint of milk, and boil it until quite soft, adding gradually three ounces of white sugar. Now set it aside to cool, and having beat up three eggs, stir them by degrees into it, flavor with nutmeg, and bake in a deep dish.

**EGG AND MILK.**—Take a fresh egg and boil for one minute; break it into a tumbler, and add half a teacupful of hot milk, and stir briskly until they are thoroughly mixed

Seasoned with salt, this forms a most excellent, light and easily digested food in many forms of disease, but especially during convalescence.

**EGG WINE.**—Break a fresh egg into a tumbler, and beat it until smooth and thick. Now add a teaspoonful of sugar and an ounce of Catawba wine, and one or two ounces of boiling water. This forms an excellent stimulant and restorative in cases where wine is indicated, and where the egg can be digested.

**BRANDY AND EGG.**—Take a fresh egg, break it in a shallow dish, and beat it until smooth and thick. Now add a table spoonful of brandy, and four tablespoonfuls of boiling water, and mix thoroughly. This forms one of the most valuable preparations that can be used, in cases of great prostration, as it furnishes a concentrated article of food in a pleasant form, and at the same time the necessary stimulant.

**BRAN GRUEL.**—Take of new wheat bran one pint, add six pints of boiling water, boil to four pints, strain, and add sugar, sirup, honey, lemon juice or aromatics to render it agreeable to the taste. It is demulcent and nutritious, easy of digestion, and useful in colds, and febrile and inflammatory affections.

**MALT GRUEL.**—Take ground malt one pint, boiling water three pints. Infuse the malt in the water for two hours, strain and sweeten, adding lemon juice or aromatics if desired. It is valuable in fevers and inflammations, as a diluent, and is a mild, unirritating and nutritious article.

**RICE GRUEL.**—Take of ground rice half a teacupful, add water two pints, boil for one hour, strain, and add nutmeg, cinnamon or wine and sugar to suit the taste. This forms an excellent diet drink in acute diseases, and in cases of great exhaustion when stronger food cannot be taken.

**PANADA.**—Take two or three slices of dry wheat bread, toast it slightly and crumb it into a bowl. Season it with nutmeg, cinnamon or other spice to suit the taste, and pour on it a pint of boiling water, and if not objectionable, a

ablespoonful of best brandy or whisky. It forms an excellent and pleasant diet for the weak and prostrate patient, and digests easily and quickly.

**FLOUR GRUEL.**—Make a linen or muslin bag holding a pound of flour, fill it with wheat flour and boil for several hours or until it forms a hard mass. Of this two or three tablespoonfuls may be grated into half a pint of new milk and the same of water, or into water alone if the milk is objectionable, and let it boil for a few minutes. It may be seasoned with any spice, and forms an excellent substitute for arrow root, tapioca or sago. It is a good diet in the bowel complaints of children, chronic dysentery and diarrhoea, and in many weakened and irritated states of the stomach and bowels.

**BEEF TEA.**—Take of lean beef, freed from fat, a pound; put it in a vessel over a slow fire and pour on it two pints of cold water. Let it boil for half an hour, removing any scum that arises, add the necessary salt and pepper, and strain off the liquor before it gets cold.

**ANOTHER.**—Take of nice beef steak cut thin, half a pound, put it on the gridiron over coals, and broil until each side is slightly roasted. Now place it in a tin vessel and pour on it half a pint of cold water, cover it and let it stand where it will keep warm for half an hour.

I prefer the latter method of making the beef tea, but either will give an excellent preparation, highly nutritious and easy of digestion. It is employed in low states of the system before solid food is admissible, and is of great value in the advanced stages of many diseases.

**BEEF ESSENCE.**—Take of lean beef, without fat, cut it in small pieces and put in a stout glass bottle. Suspend it in a vessel of water and boil for four hours, then strain off the liquor and season with salt. This furnishes the largest amount of nourishment in the smallest compass, and is employed in low forms of fever, and other diseases attended with great prostration.

**MUTTON BROTH.**—Take two pounds of neck of mutton,



water, and boil gently for thirty minutes, seasoning with salt only. It is lighter than either of the preceding, and may frequently be eaten with stale bread.

OYSTER SOUP.—Take half a dozen oysters, cut open the shells, and pick out the meat, and put it in a stew pan with a tea-cupful of water, and equal parts of milk and water, boil for five minutes, strain off the liquor, seasoning with salt, and pepper as is admissible.

A single principle or law is worth a hundred formulas, and if the cook-book would give the simple principle upon which heat is applied to the preparation of food, it would furnish a basis for good cooking. If we place before the nurse or cook—if you want to extract nutrient juices from food, commence with cold water; but if you want to retain them in the food, commence with hot water—we have placed before her a principle that will be the basis of good cooking whenever water is used. This gives the cooking for the sick.

If, for instance, we want a beef-tea, the direction is to chop the lean of beef up fine, put it in porcelain saucepan, cover it with cold water and bring it to near the boiling point, at which temperature retain it ten minutes, season, and serve. Or possibly we want it still richer, we direct that all the juices of the beef be expressed by squeezing it through a piece of stout linen or crash. The process is so simple that it seems most impossible that a beef-tea should ever be

## PART IV.

### MANAGEMENT OF ACCIDENTS AND INJURIES, AND SURGICAL DISEASES.

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Every person should be so well acquainted with the anatomy of the body, that he will be enabled to determine the nature of the more common accidents, and adopt such treatment as may be necessary, before a physician or a surgeon can be obtained. This knowledge is given in the chapter on anatomy and physiology. In addition to this, presence of mind is requisite to bring to bear this knowledge, and adopt such rational expedients as may be demanded by the case. I have often been surprised at the extreme ignorance manifested in such cases, whereby great suffering or loss of life was entailed upon the sufferer. A person receives a cut, and is allowed to bleed until almost exsanguined, the persons near trying to staunch the blood with flour, sugar, etc., or in other cases, applying a ligature to the limb so tightly, as to arrest the venous circulation, and almost endanger its vitality. A limb is broken, and often times the sufferer is moved considerable distances without any support to the limb, the broken extremities of bone piercing and tearing the flesh at each movement. In all such cases, I would advise you to keep cool, and use your common sense and judgment until better assistance can be obtained.

#### *Directions for Restoring the Apparently Dead.*

I. IF FROM DROWNING OR OTHER SUFFOCATION, OR NARCOTIC POISONS.—Send immediately for medical assistance, blankets and dry clothing; but proceed to treat the patient *instantly*, securing as much fresh air as possible.

breathing have ceased for at least an hour.

#### TREATMENT TO RESTORE NATURAL BREATHING.

RULE 1.—*To Maintain a Free Entrance of Air Windpipe.*—Cleanse the mouth and nostrils; open the mouth; draw forward the patient's tongue, and draw forward: an elastic band over the tongue and under the chin will answer this purpose. Remove all tight clothing from about the neck and chest.

RULE 2.—*To Adjust the Patient's Position.*—Place the patient on his back on a flat surface, inclined a little at the feet upward; raise and support the head and shoulders on a small, firm cushion, or folded article of dress under the shoulder-blades.

RULE 3.—*To Imitate the Movements of Breathing.*—Draw up the patient's arm just above the elbows, and draw the arms gently and steadily upward until they meet at the head (this is for the purpose of drawing air into the lungs), and keep the arms in that position for two seconds. Then turn down the patient's arms, and press them down and firmly for two seconds against the sides of the chest (this is with the object of pressing air out of the lungs). Pressure on the breast-bone will aid this.

Repeat these measures alternately, deliberately, and severally, fifteen times in a minute, until a spontaneous effort to respire is perceived, immediately upon which



side in a bed with his head raised. The patient should be induced to vomit. Stimulants should be avoided.

IV. IF FROM APOPLEXY OR SUN-STROKE.—Cold should be applied to the head, which should be kept well raised. Tight clothing should be removed from the neck and chest.

#### APPEARANCES WHICH GENERALLY INDICATE DEATH.

There is no breathing or heart's action; the eyes are generally half closed; the pupils dilated; the hands clenched; the fingers semi-contracted; the tongue appearing between the teeth; and the mouth and nostrils covered with a frothy mucus. Coldness and pallor of surface increase.—*Royal Humane Society's Instructions*.

#### POISONING.

Occasionally persons are poisoned accidentally by mistake, but most frequently it is taken for the purpose of suicide. Those who take poison are rarely able to determine the most efficient agent, or the appropriate quantity to destroy life; hence they either take too much or too little; and a large majority resort to learn the folly of attempting to deprive themselves of life. It may be laid down as a general rule, that persons who attempt to commit suicide, are laboring under temporary insanity, and in many cases it is proper to restrain them under judicious restraint.

OPIMUM.—Opium is resorted to for the purpose of suicide more frequently than any other agent, and is commonly taken in the form of tincture—*laudanum*. Fortunately, in many cases, that which is sold to the public, is only from one-half to sometimes not more than one-tenth of its officinal strength—so weak, in fact, that what seems a large quantity, will not produce death.

The symptoms of poisoning by opium, or any of its preparations, are, unnatural stupor and dispositio

**MERCURY.**—The bi-chloride of mercury, or *corrosive sublimate*, is the preparation most frequently used, and is one of the most deadly of the metallic poisons. It gives rise to a harsh metallic taste; burning pain in the stomach; vomiting and purging, frequently of bloody matter; irritation of the urinary organs; tightness and burning in the throat, occasionally so great as to prevent speech; tendency to doze, stupor, convulsions, and death.

*Treatment.*—In cases of poisoning by mercury, albuminous substances, as white of egg, milk, a mixture of wheat flour, etc., should be immediately and freely administered. This does not prevent, but only retards the absorption of the poison, and consequently its constitutional effects will be liable to be produced. The inflammation, salivation, etc., will be treated on general principles by a physician.

**COPPER.**—Poisoning by copper is rare, yet occasionally a case is met with where it is accidental, as by getting the verdigris off of old copper. The symptoms are headache, cutting pain in the bowels, cramps in the legs and thighs, the pulse being small, quick and feeble.

*Treatment.*—In poisoning by copper, administer the whites of eggs, and evacuate the stomach by an emetic. Afterward the treatment will be for the irritation of the stomach and bowels.

**LEAD.**—Lead is rarely taken as a poison, and if it were the symptoms and treatment would be similar to the agents above named. Most usually, lead poisoning is chronic and accidental, as by taking water, food or liquor impregnated with lead, and in persons working in the metal, as painters, plumbers, white lead manufacturers, etc.

The symptoms of chronic lead poisoning are, loss of appetite and power of digestion; constipation, the stool being light-colored, small and hard; lead colic; want of power over the voluntary muscles, especially manifested by dropping of the wrists, and a peculiar bluish, leaden line on the margin of the gums.

*Treatment.*—Remove the person from the influence of the lead poison. Then give iodide of potassium in doses of three grains, four times a day, keeping the bowels open with some mild cathartic.

**STRYCHNIA.**—This agent is frequently used for the purpose of suicide, and is very prompt and certain in its action. The first symptoms are a feeling of weight and weakness in the limbs, with unnatural rigidity or slight spasms, when motion is attempted. When its effects are fully developed, there is frequently recurring *tetanic* spasms, the entire body being convulsed, and the person suffering intense pain. These continue to increase in frequency and intensity, until it would seem impossible for the sufferer to live, and finally death ends his misery.

*Treatment.*—Give the sufferer freely of any fatty matter, sweet oil, lard, lard oil, etc., a pint at a time, having it ejected each time by passing the finger down the throat. After repeating this two or three times, give equal parts of tincture of camphor and gelseminum, in teaspoonful doses every half hour.

**PRUSSIC ACID.**—Prussic acid is a most deadly poison. The symptoms are, an extremely bitter, unpleasant taste in the mouth; a sensation of faintness and giddiness, succeeded by convulsions and insensibility. Its influence is very rapid, and its effects soon pass off, so that the person will either die, or recover within the hour.

*Treatment.*—There is no antidote to this poison, but the treatment should be that recommended for the recovery of persons drowned. Let a physician be immediately sent for, who will adopt the necessary treatment, if it is taken in too small quantity to prove fatal.

**BELLADONNA, STRAMONIUM, HYOSCIAMUS.**—The symptoms of poisoning by these agents is very nearly alike. There is dryness of the throat and fauces, dilatation of the pupil and insensibility to light, delirium, stupor, coma and death.

*Treatment.*—Give at once the mustard emetic until free



vomiting is produced, then give a decoction of young Hyson tea freely.

**Rhus—(Poison Vine).**—Persons are frequently poisoned by coming in contact with the different varieties of *poison vine*, and not unfrequently the symptoms are very severe and in some cases dangerous. Usually a crop of pustules make their appearance upon the part exposed, it being also swollen, inflamed and painful. They may be very persistent, coming out in successive crops for eight or ten days; or, in rarer cases, a severe erysipelas results, and the case becomes one of danger.

**Treatment.**—Take the bark of the common elder, boil it in buttermilk and apply the decoction to the part affected. If this can not be obtained, use equal parts of tincture of camphor and milk, or equal parts of lime water and linseed oil. Bi-carbonate of soda, or common washing soda, is one of the best remedies that can be used. Add sufficient water to it to form a paste, and apply thoroughly once or twice a day to the part poisoned. It will usually kill it in from two to four days.

### SUN-STROKE.

Coup de soliel, or sun-stroke, is usually caused by prolonged exposure to the direct rays of the sun, but in some cases exposure for a very short time will cause it. The first symptoms are a feeling of weight and tension in the head, with intolerable heat of the surface and dizziness. Very soon the patient feels unable to command his limbs and sinks down in a state of more or less complete unconsciousness.

To prevent sun-stroke, wear a hat that permits the air to pass through, and have the top lined with one thickness of flannel, or keep a silk pocket handkerchief in the crown. Persons who feel the symptoms above named should immediately get in the shade, and bathe the head in cold water; exposure to the sun on the same day would in most cases be very imprudent.

**TREATMENT.**—When a person is sun-struck, have him immediately conveyed to the shade, in a cool place, where there is free circulation of air. Bathe the head freely with cold water, and if the extremities are cold rub them warm with the hand or dry mustard. As soon as he is able to swallow, give internally tincture of camphor, or other stimulus in small quantity. If he is unconscious and breathes with difficulty, pursue the plan recommended for restoring the apparently dead.

### APOPLEXY.

Apoplexy is caused by sudden congestion of the brain, or rupture of some of the small blood vessels and formation of a clot within it. In all cases there is compression of the structure of the brain, and sudden arrest of its function. In many cases the person has no warning of the attack; in others he has a feeling of dizziness and partial loss of consciousness and command over the voluntary muscles, which continues but a few minutes, and recurs at intervals for several days.

When the attack comes on he loses his consciousness suddenly, and falls down in any place where he may be situated. The breathing is slow, labored and snoring, the pulse full, slow and oppressed, the body remaining in one position without convulsive movement.

**TREATMENT.**—Let the person be immediately placed in a comfortable position on his side, and see that his tongue falls forward. Bathe the head with cold water, and have the lower extremities rubbed with mustard, being careful that the by-standers do not crowd round so as to obstruct circulation of air. Apply a large mustard plaster to the stomach, and if it is a bad case, use an injection of a teaspoonful of ground mustard, one of salt, and one of lard to a pint of water. Give nothing internally, but send immediately for a physician.

Persons predisposed to apoplexy should live very tem-

perately, avoiding rich, stimulating food, and all kinds of liquors. The cold bath with rubbing should be used two or three times a week, and exercise taken in the open air. As excessive mental exercise predisposes to the disease in some cases, it is well to keep the mind as free from excitement as possible.

### *CONCUSSION OF THE BRAIN.*

Persons falling from a distance may suffer from concussion of the brain, especially if they fall upon the head and the same effects may result from severe blows upon the head. The symptoms are entire loss of consciousness, slow and difficult breathing, and slow, oppressed pulse. The management of such a case would be the same as in apoplexy, sending immediately for a physician.

### *BRUISES.*

When a part is struck and injured, the vitality of the tissues are impaired, and blood is exuded from the vessels into the tissues. Purplish discoloration results, and the part is said to be bruised.

**TREATMENT.**—The most efficient treatment in these cases is the application of the tincture of arnica, diluted with from one to four parts of water. It should be applied with cotton cloths, and the part kept continually wet. If you cannot get this agent, use tincture of camphor in the same way, or even tolerably strong salt water. The application of a poultice of Solomon's seal will speedily remove the discoloration of a "black eye."

### *CUTS.*

When a part is cut, the first thing that causes alarm to the person and by-standers is the flow of blood. Every person seems to be fearful of blood, and but a small lo



occasions alarm. If there is but oozing of dark colored blood, no matter if there seems to be a large quantity lost, there is no danger, and the bleeding will stop of itself. If the blood is dark colored and flows in a constant stream, a vein is injured, and compression should be made upon that side of the wound farthest from the heart. If, however, the blood flows in jets and is bright colored, an artery is wounded, and if the stream is of considerable size, the person is in danger, and the flow of blood should immediately be stopped by compression.

By refering to Fig. 3 descriptive of the blood vessels, the course of all the arteries may be traced. Now, if you have leisure, follow the course of all these vessels on your own body, as you can tell the situation of an artery by its pulsation. In a very short time you will have learned the situation of every important artery in the body, and this knowledge, in time, may be the means of saving your own or some other person's life. Arteries when cut, bleed from that end next the heart, and all you have to do to arrest the hemorrhage is to apply pressure to the artery on that side. For a temporary purpose, apply your thumb above the wound, making pressure toward the bone; the arrest of the flow of blood will tell you when you have it over the artery. Now have a bystander get you a block of wood, or a pebble an inch in diameter, and place it immediately where you have your thumb, pass a handkerchief around the limb over it, and twist sufficiently tight to check the flow of blood.

Unless a large trunk is cut, which is not common, the flow of blood soon ceases, and the wound may be dressed. If gaping, take a common stout needle, thread it with silk, and pass it through first one and then the other edge of the wound, tying it sufficiently tight to bring the edges together; this is called a *suture*, and as many of them may be taken as necessary. Now take common adhesive plaster, cut it in strips half an inch wide, and heating them over a candle or tin vessel of hot water bring them

over the wound cross-wise, so as to bring it perfectly together. If the wound does not gap much, the adhesive plaster will answer without the stitches. No other application is necessary, unless the part becomes swollen and painful, when cold water should be applied to it. As a rule a cut does best when tied up in its own blood.

### BURNS.

Burns are the same, whether produced by a hot solid, or by hot fluids. They vary in character according to the length of time the body is exposed to their influence, and the extent of surface involved. If one-seventh of the entire surface of the body is scalded so as to destroy the skin, it is claimed by some authorities that the patient will not recover; some persons, however, will get well if even a much greater surface is burned.

TREATMENT.—When a person is burned or scalded, immediately wrap the part up in cloths wrung out of common cider vinegar, keeping them continually wet, or if it can be obtained, the *fire extractor* of our dispensatory may be applied. The old-fashioned remedy was equal parts of lime-water and linseed oil, and a very good remedy it was in many cases. Some direct that the parts should be immediately covered with flour, others prefer slippery elm; both of these are objectionable, as they stick to the burned part, and can with difficulty be removed if any other application has to be resorted to. It is very important, if a limb or the neck is burned, that it be kept straight during the process of healing, as contraction of the cicatrix is very likely to occur, producing serious deformity.

### DISLOCATIONS.

By a dislocation we understand the forcible separation of the bones at their point of articulation, the extremities of the bone being thrown out of joint. It is usually the result of falls or blows, and is manifested by pain, deform-



ity of the joint, and imperfect motion. Any person who will carefully examine the same joint upon the opposite side of the body will be able to determine the character of the injury. We determine it from a fracture by carefully pressing the fingers against each bone that enters into the joint from one end to another; this can be done, as the muscles yield to pressure; and in almost all cases the extremities of the bones can be felt in an unnatural position.

The most frequent points of dislocation are the shoulder, wrist, hip, ankle, in the order in which they are named. In dislocation of the shoulder the arm can be moved forward and backward, and to a limited extent, elevated, and the hand contracted without pain. But on elevating the limb it becomes painful, and before it is brought to a right angle with the body its movement is arrested. As will be seen by the cut, dislocation of the wrist produces marked deformity, and the ends of the bones can be readily felt. The hand may be thrown either forward or backward. Dislocation of the hip most generally gives rise to shortening of the limb, as seen in Fig. 32, though in some cases the head of the bone being thrown downward, the limb is elongated. Dislocation of the ankle is almost always accompanied by fracture of the outer bone of the leg, *fibula*, and presents the appearance seen in Fig. 30.

TREATMENT.—If it is possible, obtain a good physician as soon as you can, in the meantime if the joint swells and is painful, keep it perfectly still and apply cloths wrung out of cold water. If a physician or surgeon can not be obtained, make up your mind to set the limb yourself, observing the following rules.

In case of dislocation of the lower jaw, the injury will be so apparent that it can not be mistaken. The mouth is wide open, and it is impossible to shut it. Place two fingers of each hand in the mouth upon the molar teeth, and the thumbs against the under surface of the chin, draw the bone downward with the fingers pressing the



FIG. 28.



Dislocation of the Lower Jaw.

FIG. 29.



Dislocation of Shoulder.

FIG. 30.



Dislocation of Ankle.

chin upward with the thumbs, and press it backward; it will go into position with a very marked snap.

In case of the shoulder, let the person lie down upon the floor; take your boot off of that foot that corresponds to the injured limb; sit down by the side of the sufferer, and put the heel of your foot in his armpit; now grasp his hand, and make steady, slow but powerful traction on

FIG. 31.



Reduction of Dislocations of Shoulder.

the arm, and in nine cases out of ten you will be gratified by hearing the bone return to its place with a perceptible snap.

FIG. 32.



Dislocation of Wrist.

The wrist can usually be set with but little difficulty, all that is necessary being to make continuous traction until it goes into place.

FIG. 33.



Dislocation of Hip.

The hip is not so easily manipulated; it requires the manipulation of a skilled surgeon, and I do not advise it to be undertaken unless it is possible to obtain necessary assistance. If this cannot be obtained, recollect that by continuous, powerful traction you can draw the bone out of its position, and if you know the true one, you can press the head into the socket.

### FRACTURES.

Bones are broken by falls, blows, either transversely or obliquely, or into several pieces comminuted. The injury

is attended by more or less acute pain in the part, especially when it is moved, shortening of the limb, and in a majority of cases by almost entire loss of motion. If no fracture is detected by carefully pressing along the bone, the sharp extremities of the bone felt. In very severe and bad cases, one or both broken extremities are driven through the flesh and

**TREATMENT.**—Place the sufferer in an easy position; place the broken limb on a pillow in as comfortable a position as possible—which will almost always be to lay it straight—and send for a surgeon. If the person has to be carried any distance, it is well to apply two straight pieces of board on each side of the limb, straightening it out to full length if possible, and tying them fast with strips of muslin two inches wide.

If a surgeon can not be obtained soon, say during



day, adopt the following plans: If the injury is of the lower extremity, and when the bones are set, they immediately draw back, place the patient on a single bed lounge, and elevate its foot, say eight or ten inches; attach a bandage three inches wide to the foot and sole, so that it will hold it without making too great pressure, and firmly fasten it to the foot of the bed; put a pillow under the limb, and the work is done. The inclination of the bed being such that the patient will lie toward the head of the bed, and the ankle being secured to its foot, the leg will be drawn out and set itself. The same plan may be adopted with the arm, but in a majority of cases, if it is drawn out to its full length, and no straight boards or splints applied, the bones will be retained in position until the surgeon can give it a proper dressing.

### HERNIA.

Hernia, or *rupture*, is the escape of a portion of the intestine through the abdominal walls. This usually

FIG. 34.



Inguinal Hernia.

occurs at two points—first, at the inguinal canal just above the groin, as seen in Fig. 34. This is most frequent in males. Second, at and just below the groin. This is most frequent in females. Rupture is most usually caused by heavy lifting, straining, or injuries, though some persons seem to be naturally predisposed to it, the abdominal walls being weak at these points.

Hernia is usually recognized with ease—the passage of the intestine causing a feeling of pain or weakness, and a peculiar puffy swelling is observed at the spot. Whenever a rupture is discovered, it should be carefully put back by pressure, and a bandage and compress worn until a properly adjusted truss can be procured, which should be worn constantly, putting it on in the morning before getting up, and taking it off on going to bed.

Sometimes the intestine comes down, and the sufferer can not return it, and it is then called strangulated hernia. In this case let him lie down upon his back, and for half an hour apply warm applications; now let pressure be made upon the tumor, gradually working it back a part at a time. It is best to send for a physician immediately on finding that the intestine can not be returned by the usual means. If the case is likely to be a difficult one, it will be better to apply a fomentation of tobacco leaves for half an hour before the physician is expected, to produce relaxation.

### HEMORRHOIDS.

Hemorrhoids, or piles, is a very unpleasant affection sometimes giving rise to such suffering and inconvenience that life is rendered a burthen. They are divided into two varieties, *internal* and *external*—the one being within the rectum, and covered with mucous membrane, the other being outside and covered with the skin. Internal piles, when large, come down when the patient goes to stool, and have to be returned after the evacuation of the

through the liver on its way back to the heart, use tending to induce congestion of these veins, and give rise to the disease. At first the pile-tumors are of various size, at times being large, and then passing entirely away, but at last they become more or less permanent.

**TREATMENT.**—In the early stages of the disease, it is amenable to medicinal means, but when it has continued long, the better plan is to have the piles removed by operation. As the first and most important part of the treatment, the bowels should be kept regular, moving daily, without physic, if possible. If the sensation in the bowel is of contraction, with a feeling as if some substance had lodged there, the remedy will be the use of collinsonia, one drop three times a day. If there is a sense of fullness, and the parts are swollen, the use of Wood's extract of Hamamelis, ten drops four times a day.

The best local application, in the majority of cases, is a solution of Persulphate of iron in water, in equal parts.

A permanent cure, even in bad cases, can sometimes be effected without an operation, as I have seen numerous instances in my practice. If not, the removal of the tumor is neither very painful nor difficult in competent hands.

### ***FISTULA IN ANO.***





in many cases, both externally and into the bowel, inducing a false passage for the escape of its contents. The walls of the fistula become hardened and callous, and constantly discharge matter, there being no tendency to heal up. It is a very loathsome and annoying disease, often severely affecting the general health. No domestic treatment will do any good—apply to a skillful surgeon, who prefers the ligature to the knife, and a cure can be effected in a short period.

### CHRONIC DISEASE OF THE BONES.

Diseases of the bones are among the slowest and most stubborn that we have to contend with. Sometimes the shaft of a long bone is the seat of the disease; at others the extremities of the bones, and consequently the joints are implicated. The commencement of disease of the bone may be known usually by its slow progress, the deep-seated pain, and the attachment of the swelling to the bone. In the case of the joints, slight swelling, weakness, and pain in certain movements, are the symptoms. Do not regard these symptoms lightly, but as they continue longer than any common affection, consult some competent authority, and pursue a regular course of treatment. All domestic remedies must do harm, as they waste time, and not unfrequently aggravate the disease.

Very many cases of stubborn disease of the bone are attended with fistulous openings, and continuous discharge, are relieved by removing the dead bone that acts as a constant irritant. The prospects of cure in all cases, are sufficient to induce the consultation of good surgical authority.

FIG. 39.

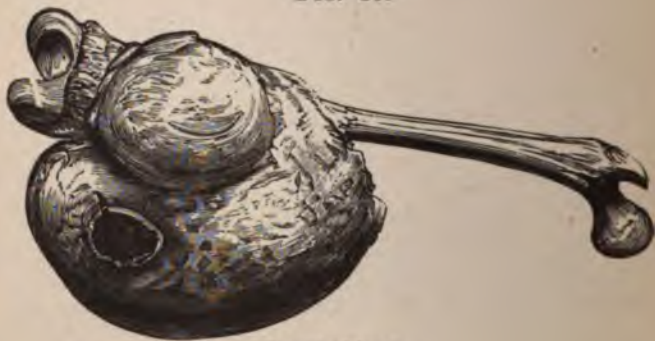


Extremity of diseased bones, showing the projecting spicula.

**TUMORS.**

Tumors may form in any part of the body, either internally or externally. There are very many varieties, but they may be divided into two prominent classes, the *benign* and the *malignant*. The first, though it may attain a very large size, is not destructive to life, further than from its great size, and the injurious pressure of it upon other organs or parts. The second seems to have an independent vitality, and fastening itself upon the body, it not only appropriates the nutritive materials of the tissues, but it destroys those with which it comes in contact, until finally death results.

FIG. 40.



Tumor of bone.

A benign tumor may consist entirely of fibrous tissue, or of an outer wall of this, and contain a watery or fatty material, or it may be formed of numerous sacks containing fluid. Its growth may be rapid or slow, but it does not give rise to any pain or uneasiness, except that produced by pressure upon the skin or internal parts, unless when developed within or in connection with internal organs. I have removed many of them that only became troublesome when they had become very large. The only sure plan of treatment is their removal with the knife, an operation attended with but very little if any danger.

### CANCER.

Cancer is the most fearful disease to which humanity is subject, as its commencement and progress are so insidious as to cause but little alarm, until, when his attention is strongly drawn to it, most physicians regard his doom as sealed. Three forms of the disease may be distinguished—first, that which is at first confined to the skin, though at length extending deeper, *lupus*; second, that which commences as a slow, hard, nodulated tumor, gradually embracing adjacent tissues, *schirrus*; and third, that which grows rapidly, is somewhat soft and fluctuating, and passes rapidly to a fatal termination, *fungus hematodes*. Their malignancy is in the order in which I have named them, the *lupus* least, and the *fungus hematodes* the most virulent.

*Lupus*, or cancer of the skin, commences sometimes by a slight itching sensation of the skin, as if a fly was on it, and frequently the hand will be raised up to brush it off. If closely examined now, it will be found but slightly discolored and roughened. But after a few months a small sore is formed, which is continually forming and throwing off a scab, the skin gradually becoming thickened, and the ulcer increasing in depth, until the fully formed disease is developed. At other times it will com-



mence as a small wart, which becomes irritable, is puffed off, grows again, and at last exhibits its malignancy.

*Schirrus* usually commences as a small, hard tumor seated immediately beneath the skin. It is movable beneath the skin, and gives rise to but little unusual sensation except that of stinging or pricking of the part. It is this named feature that calls attention to it, but as it is so common and occasions no inconvenience, it is not deemed necessary to say any thing about it. But it keeps growing, sometimes slow, at others pretty fast. It becomes nodular or rough; forms an attachment to the skin, and to the parts beneath; is now quite large, the skin ulcerates, and a sore is the result. Now the adjacent lymphatic glands become enlarged, and the system becoming contaminated there is no earthly help for the sufferer.

*Fungus hematodes* commences as a tumor under the skin, but it seems to have an attachment below. It grows rapidly, soon forms an attachment to the skin, and in some cases obtains an enormous size before it ulcerates. At other times ulceration occurs early, and a large nodular mass grows from the surface.

TREATMENT.—The treatment of cancer, if it is successful, must be commenced at an early period. If the disease is entirely local, the adjacent glands not affected, nor the skin much implicated, a cure is almost certain if proper treatment is adopted; but if it is allowed to progress until the lymphatics are involved, and the system impregnated with the cancerous poison, there are no known means of curing even a single case. If, therefore, we have a suspicious growth, have it examined by a physician competent to determine its character, and have it immediately removed.

Various plans of treatment have been adopted, but they may be resolved into the removal of the cancerous mass with the knife, or its extirpation with caustic. The knife has been brought into disrepute by the way in which it has been employed. As we use it, we remove

growth and the skin covering it, and then, by the use of remedies, keep up suppuration from the wound until the last vestige of morbid growth is extirpated. If caustics are employed, they must be so used as to destroy the entire growth at once, for if they do not, they set up inflammatory action, and the cancer grows more rapidly than if nothing had been done for it. Some cases can be removed by a painless application, though it, as most other means, is most successful with those who have had large experience in the treatment of this disease. Beware of quacks and cancer doctors, and trust rather your family adviser, or some physician who does a legitimate business, than one you do not know, and who possibly has no further interest than to obtain your money.

#### CARBUNCLE.

A carbuncle is a malignant boil, and manifests but little tendency to natural recovery. It commences as a small, hard, and painful swelling of the skin, similar to a boil, though much more irritable. It enlarges slowly, but, contrary to the expectation of the sufferer, it does not suppurate. In four or five days it will have obtained considerable size; it looks red and angry, is intensely painful, and presents two or three yellowish spots on its top that indicate matter. If these are punctured, but a drop or two exudes. As it progresses it involves the adjacent skin, and more of these yellowish spots are seen, and on examination they are found to be the external orifices of canals which pass through the mass in all directions. Continuing further, portions of tissue die and are thrown off, until at the end of the second or third week, the carbuncle has attained the size of a hen's egg, or a small ulcer, with a central, foul, sloughing ulcer.

**TREATMENT.**—There are but two ways of treating carbuncles successfully—they must either be freely incised to their base in two or three directions, or they must be

burned out with caustic. Both operations are painful. In the first, the surgeon takes a sharp knife and passes it through the tumor from side to side, dividing it to its base, and again in the same manner from above downward. I much prefer the use of the caustic. Take of sesqui-carbonate of potash, or if this can not be obtained, carbonate of potash, a sufficient quantity; pour a sufficient quantity of water on it to dissolve it, and, with a small glass syringe, inject it into every external opening. The pain is intense at first, but in a short time it is almost entirely relieved. As a dressing, a solution of the Permanganate of Potash is the best remedy, and its early application will sometimes arrest the disease; use half drachm to four ounces of water. A strong solution of boric acid is very good.

### BOILS.

A boil is an inflammation of the skin, and is commonly supposed, but without any very good grounds, to indicate impurity of the blood. They commence as a small round, painful tumor in the skin, which day by day increases in size and impairs the movements of adjacent parts. Usually, by the sixth or eighth day, the pain becomes tensive and throbbing, indicating the presence of pus or matter, and in two or three days more they break and discharge their contents, when the part heals up. They vary much in size, sometimes being small, and of very little consequence, but at others they are large, numerous, and very painful.

TREATMENT.—In a majority of cases all the treatment that is necessary, is, to poultice them with slippery elm and when matter has formed, have them opened. If they still remain painful, and will not heal, use the injection named under the head of Carbuncle. Sometimes they may be driven back by painting the skin with strong tincture of iodine. If a person is continuously troubled with them, a wine-glass of lime-water three times a day



will be found the best remedy, and will also improve the general health.

### FELON.

A felon is a deep-seated inflammation of the fibrous tissues covering the bones of the fingers. It is generally supposed to arise from a bruise or injury, but in many cases no such cause has been noticed. The first symptoms are a feeling of deep-seated pain and soreness, and tenderness on pressure. This increasing, the part becomes very tender and swollen, and in two or three days is so painful that it can not be used. The pain of a felon is, in many cases, extreme, so much so that the sufferer can get rest neither day or night. Suppuration occurs in from four to ten days, but as the tissues are so dense, it requires a considerable length of time for the pus to reach the surface.

In some cases, especially if improperly treated, the bone becomes affected, and passes away in small pieces with the matter, the finger being a most unpleasant looking sight.

TREATMENT.—At the commencement of the disease, it may be arrested in many cases. Take of common yellow clay, finely powdered, a sufficient quantity to make a poultice for the finger half an inch thick; wet it with vinegar until it is about the consistence of brick or potter's clay; now put it around the affected finger, and tie it on with a strong bandage of cotton cloth. When it dries it will form a strong case for the finger, which will prevent swelling. It will be quite painful for the first day, but after that the pain will gradually cease, and in three or four days the finger will be well. The application should not be removed until all the pain and soreness has disappeared.

If too late for this, apply a poultice of slippery elm, bread and milk, or flaxseed, until pus is formed, then have

it opened. Wool soaked in lard is a good application to cause it to suppurate, though it is very painful. If the felon has been a bad one, have it injected with the potash solution named under the head of carbuncle.

### ULCERS.

An ulcer is an open sore in the skin of variable size, and with but little tendency to get well without assistance. They are sometimes the result of injury of the part; at others, they are caused by varicose veins, and at others they are produced by a scrofulous, mercurial or other cachectic condition of the system. They may be divided into three kinds: the *irritable* ulcer, which is painful and very annoying; the *corroding* or eating ulcer, which manifests a continued tendency to enlarge; and the *indolent* ulcer, the name expressing its general character.

FIG. 41.



Application of Bandage.

TREATMENT.—An ulcer in its early stage, if on one of the extremities, may almost always be healed by the application of cold water, and the careful use of the bandage, see Fig. 41. Apply to your physician and let him instruct you how to apply the roller properly, for if not used so as to produce equal pressure, it is rather detriment than a benefit. In some cases the ointments Nos. 90 and 91, answer an excellent purpose, and will sometimes heal the ulcer, without the use of the bandage. If the person is of a scrofulous or cachectic habit, an appropriate general treatment should be adopted to remove this condition and restore the general health.

## PART V.

### DISEASES AND THEIR TREATMENT.

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#### *DISEASE.*

Disease we define to be any change from the normal structure or function of any part, or of the entire system. If the disease embraces the entire body, we say that it is a general disease, but if confined to any organ or part, we call it a local disease. Disease always involves a change of structure, either in the fluids or solids, even in those rare cases in which it originates in, and seems to be confined to, the nervous system.

Before considering local and general disease, it will be well to take a glance at the forces which act upon the materials of which the body is composed, producing all the varied actions of the system both in health and disease. In the human body, as well as in all living organisms, we recognize two separate and distinct forces, which are antagonistic to each other; these are the *vital*, and the *chemical* forces.

The vital force is that power which from the single cell builds up the entire organism; separates from the nutritive materials furnished it, those portions which form the different organs of secretion, excretion, and innervation; supplies the waste of the tissues, and tends to keep the body intact.

But in the chemical force, we recognize the cause of the waste of the body, the disintegration of the tissues, the change of matter from a higher to a lower grade of organization, and all the retrograde tendencies in the body—from a state of health to disease and death.



Health then consists in the maintenance of the proper equilibrium between the vital force which builds up the system, and the chemical force which causes disorganization. Life itself is a forced state of being caused by a preponderance of vital force; every atom of the body having a constant tendency to revert back to its original elements. This change taking place in the entire body, produces *death*; in but a portion of the body, it produces disease.

### GENERAL DISEASE.

There can be no doubt that the seat of general disease is in the fluids of the body, and that all the phenomena that is manifested by it, grow out of changes which are primarily produced in the blood. This will be more apparent when we reflect that it furnishes nutritive material to all parts and tissues, and that its stimulation is necessary to the performance of all the functions of the body. No other part of the organism can be compared to the blood, in respect to the feeble influence it offers to external influences. "The blood," says Liebig, "is not an organ which is formed, but an organ in process of formation; indeed it is the sum of all the organs which are being formed. The chemical force and vital principle hold each other in such perfect equilibrium, that every disturbance, however trifling, or from whatever cause it may proceed, effects a change in the blood. This liquid possesses so little permanence, that it can not be removed from the body without immediately suffering a change, and can not come in contact with any organ in the body without yielding to its attraction.

"The slightest action of a chemical agent upon the blood exercises an injurious influence; even the momentary contact of the air in the lungs, although effected through the medium of cells and membranes, alters the color and qualities of the blood. Every chemical action propagates itself through the mass of the blood; for ex-

the active chemical condition of a body undergo composition, fermentation, putrefaction or decay, the equilibrium between the chemical force and principle in the circulating fluid. Numerous variations in the composition and conditions of the fluids produced from the elements of the blood, reveal the conflict of the vital force with the chemical in their incessant endeavor to overcome one

variations of the blood may consist either in an excess or in the normal constituents of that fluid, in a variation in the composition of some of its elements, or in the presence of a morbid matter, either generated within the system or introduced from without.

A variation of the normal constituents of the blood is rarely the cause of disease, without, indeed, we should consider an increased quantity of fibrine in inflammatory diseases as a cause of this kind; or the constituents of the urine, uric acid, etc., as elements always found in the

variation of some of the constituents of this fluid is of frequent occurrence; thus we may have a defect in the quantity or quality of the red globules, the albumen, fibrine, or the salts. A defect either in the quantity or quality of these materials is *disease*, and being located in the fluid that furnishes nutritive material for the entire system suffers in proportion to the importance of the constituent affected, and the change in quantity or quality that it has undergone.

The presence of a *morbid material* in the blood is the frequent cause of general disease. This morbid material may be either generated within the body, and or it may be introduced into the circulation from without.

What are we to understand by the term *morbid material*? We may define it to be any substance of a lower degree of organization than the blood—an organ or system which has already begun to decay, such a body

as we know will act like *yeast* in the blood, effecting a similar destruction in every particle of it that has not sufficient vitality to resist the change.

### FEVER.

Fever is a disease characterized by a rapid circulation of blood, increased heat of the surface, arrest of the secretions, and an irritable condition of the nervous system.

Authors have divided it into two principal classes, *idiopathic* and *symptomatic* fever. In the first, there is no local disease at its commencement, all parts of the body suffering alike; therefore, it must be a disease of the blood and the nervous system, as these only are generally distributed through the body. The second is preceded by *inflammation* of some part, the inflammation being the cause of the fever, as will be hereafter described.

CAUSES OF FEVER.—1. It may be induced by a sudden shock of the nervous system, as is sometimes witnessed from the depressing emotions, fear, grief, etc., and in some few other cases from great excitement. In these instances the nervous system is exhausted, and consequently there is a feeble circulation of blood, and imperfect excretion, effete material being retained within the blood. During epidemics it has long been noticed that those who suffered from fear or mental excitement, were very likely to have the disease. 2. Suppression of the excretions is a very frequent cause of fever. As we have already seen, the excretions are composed of the worn out tissues of the body, and in all cases are poisonous to it. Now if such material as is removed by the skin, the kidneys or bowels be retained in the blood by arrest of secretion, disease must result, and new processes must be set on foot to remove the offending material. 3. Causes inducing congestion or a sluggish circulation of blood, will cause fever. In order to retain its vital properties, it is necessary that it continue in active circulation. If it stops bu



short length of time in any organ or part, it loses its life to a considerable extent, and becomes effete material. 4. Morbid material introduced into the blood from without, as gaseous exhalations from decomposing animal or vegetable material, which gains entrance into the circulation through the lungs; or decomposing animal matter, which may be absorbed from the skin, mucous membranes, etc.

A very good example of the action of a blood poison, is afforded us by inoculation with small-pox virus. The smallest quantity of virus, if placed where it can be readily taken into the blood, is as potent as a larger one. At first, there is no disturbance of the system, the quantity of the poison being too small. But it increases day by day, and in time a gradually increasing depression, manifested by listlessness, languor, loss of appetite, morbid innervation, and arrest of secretion. Finally the depression becomes so great that there does not seem to be power enough in the system to circulate the blood, the result being a *chill* of variable duration. If this continues, vitality will be destroyed; hence, in a longer or shorter time, we find the energies of the system concentrated to overcome it. The result is *febrile reaction*, which ceases only when the material introduced has been entirely removed. In this case it is principally thrown upon the surface as a pustular eruption, but we notice that the poison has been wonderfully increased, as each pustule contains possibly a hundred or a thousand times the quantity introduced. This virus has been produced from the blood by the action of the original minute portion of virus on it.

As another instance, take a person who has been exerting himself more than usual; this exertion has caused a greatly increased disintegration of tissue, which partially disorganized material remains in the blood. The exertion has been attended with increased excretion from the kidneys and skin, the last being especially manifest by free perspiration. At this time the person ceases his exertion, and sits down in a damp place, or in a draft of cold air,

the effect being to stop the secretion from the skin, the material that would have been thus removed, is retained within the circulation. Not only so, but the blood is driven from the surface to internal parts of the body, embarrassing the action of the internal excretory organs. Now if vicarious excretion does not occur from the lungs or bowels, the result will be fever, or inflammation of some structure of the body accompanied by it. What are the phenomena that follow? There is first a stoppage of all the functions of the body, followed by a chill, and this by febrile reaction, which terminates only when secretion is re-established.

PHENOMENA OF FEVER.—A fever is composed of four stages: 1st. A stage of incubation, of variable duration; 2d. A cold stage; 3d. A hot stage; and 4th. A stage of excretion, or, as it is generally called, a sweating stage. These follow one another in the order in which they are named, and each one may be considered as the natural sequence of the one which preceded it.

1. The stage of *incubation* is that period between exposure to the cause of the fever, and the commencement of the chill, and during this time the fever poison is acting in the blood. It is of variable duration—nine to twelve days in smallpox, six days in scarlet fever, and from two or three days to as many weeks in typhoid fevers. The symptoms are those of depressed vitality, languor, listlessness, torpor of all the functions, and of the circulation, etc., which increases daily until the period of chill.

2. *Cold Stage.* With the continued impairment of the blood, we have such depression of the nervous system that there is no longer power to circulate the blood to the extremities. Stagnation of parts near the center of circulation ensues, there is deficient oxygenation and capillary circulation to the skin, the result being constriction, coldness and involuntary movements or tremors. If the vital force is so depressed that reaction cannot take place, these sym-



increase, and the patient dies during the chill, as we sometimes witness in congestive chill.

3. *Hot Stage.* We recognize in organized beings a certain conservative power which opposes the operation of noxious agents and labors to expel them when they are introduced. During the preceding stages this power has been in abeyance, but now, in order to prevent death, it is concentrated to circulate the blood. The result is increased action of the heart and lungs, giving rise to the frequent pulse, return of capillary circulation to the surface, increased oxygenation, and consequent increase of temperature. The rapid circulation and oxygenation of the blood causes excitation of the nervous system; and the concentration of vital force to the circulation of the blood accounts rationally for the arrest of secretion.

4. *Sweating Stage.* If the hot stage has been proportionate to the others, equal circulation throughout the body having been established, and the deleterious material fitted for excretion, it terminates by the establishment of secretion from the skin, kidneys and bowels, and consequent return to health. It may take hours or days for the accomplishment of this end, but if the patient recovers it is accomplished. In intermittent fevers we may suppose that the stage of excretion is not completed; that the blood is not entirely freed from the cause of disease. In such case, after a certain length of time, we would have such increased generation of the morbid material as to reproduce the fever. In remittent fevers, the object being but partially accomplished by one revolution of the disease, there is but remission in the febrile reaction.

**DIVISION OF FEVERS.**—Fever may be divided into three classes—*febricula* or slight fever; *periodic* fever, and *continued* fever. The first is that evanescent disease that so frequently follows arrest of secretion, and disappears in a few hours or days without trouble. The second is characterized by distinct periodicity, and is divided into two forms, *intermittent* and *remittent* fever. And the third is dis-



tinguished by there being no break in the commencement until its end; it is divided into varieties, sthenic or inflammatory fever, common fever, typhoid fever, and typhus fever.

To these we would add the exanthematic small-pox, measles, scarlet fever, etc., which are produced by the absorption of a specific virus; which is absorbed into the blood, and is finally determined

### FEBRICULA.

The definition of the word febricula, is that which we use it to designate the evanescent form of fever which is produced by exposure to cold, sudden change of temperature, or other cause that would impede the circulation of the blood, and check secretion.

The symptoms are very plain—the person for a day or two, has slight chills, headache, pain in the back and limbs, poor appetite, constipation or diarrhoea, loss of strength. After the chill, the surface of the body is cold, the pulse increased in frequency, the nervous system is irritable, and secretions checked. The fever comes and goes several times during the day, or is continued constantly for two, or three, or five days. A person accustomed to sickness will see that the patient is very ill.

TREATMENT.—To a half glass of water add Aconite five drops, and give a teaspoonful every hour. The feet may be bathed in hot water, the patient kept comfortably in bed, the windows shaded, and the room kept quiet. If the sick person is restless, with frequent shivering, add five drops of the tincture of Rhus to the water containing the Aconite. If the sick person is stupid and insensible, add Belladonna in place of the Rhus. If there is much cough and pain in the chest, the second remedy is Bryonia.

**INTERMITTENT FEVER—AGUE.**

A majority of the profession concur in saying that intermittent fever is produced by the absorption of the gaseous exhalations of decomposing vegetable matter, or *marsh miasmata*. In proof of this, it is shown, that this form of fever is endemic in those sections where vegetation is profuse, and the conditions for rapid decomposition generally exist, and that in sections where these conditions do not exist, it is not found. It is further proven by the fact, that in those sections where it is endemic, if the season is remarkably wet or dry, so as to prevent vegetable decomposition, there are but few if any cases of the disease. Any cause which will depress the vital power of the system, will predispose the patient to the action of the malarial poison.

**SYMPTOMS.**—For a few days preceding the first chill, the patient feels languid and bad, and has more or less pain in the back and limbs, with sometimes headache and derangement of the stomach. The *cold stage* makes its appearance with a desire to yawn or stretch, purplish appearance of the nails, and increased thirst. The patient becomes cold, the skin shrinks, chilly sensations pass over the body, and in many cases there is shivering or trembling of the muscles, sometimes to a very great degree. This chill continues a variable length of time, from fifteen minutes to four or five hours, and is succeeded by febrile action. This is usually in inverse proportion to the chill, as regards duration and intensity. The skin becomes hot and dry, the pulse frequent, the mouth is husky and dry, urine scanty, with considerable pain in the back and head, restlessness, and sometimes delirium. The fever will last for from two or three hours, to nearly the entire day, and is succeeded by the *sweating stage*. The skin grows cool, perspiration is established, urine becomes free, and the pain and restlessness pass entirely off.

The fever, in some cases, occurs every day, when it is

called a *quotidian*; in others, every other day, which is designated a *tertian*, and in others, every third day is called a *quartan*. In some cases it occurs at an hour each day, and is then termed *anticipating ague*, a stubborn form of the disease; or it may recur at an hour each day, when it is called *deferring ague*, which is usually the mildest form of the disease.

If an ague continues for a long period, the skin becomes sallow, the digestive organs are impaired, the liver enlarges, forming ague-cake, and the nervous system in fact the entire body loses its tone. These cases are difficult to manage.

TREATMENT.—In a simple case of intermittent fever endeavor to get the system in good condition, and administer a sufficient quantity of some *anti-per* to arrest the disease. In the treatment of an ague it is to give the remedy that is indicated to prepare the way for the kindly action of quinine—as Aconite, Rhubarb, Ladonna, Ipecac, Nux, etc. Then give, in the intermission, from twelve to fifteen grains of quinine to an adult, and a proportionate quantity to children, in two or three doses, so that the last may be taken at least one hour before the expected chill. This will arrest the disease in nineteen out of twenty cases; if it does not, repeat the dose again, paying more attention to the means first named.

To keep it off, use the bath to keep the skin in good condition; keep the bowels regular, and take in the evening a solution of acetate of potash, No. 41; half an ounce in four ounces of water; a teaspoonful four times a day. For three or four days after the chill is broken, take one or three grains of quinine daily, and every seven days thereafter, until the system is entirely free, five grains of quinine. The disease has a tendency to recur at intervals of seven days, and this must be especially guarded against. No person need fear any injurious action from the above recommended, as it can not possibly do harm. The consequences that have been attributed to



been produced by other agents with which it has been combined.

There are many cases that are very stubborn and persistent, and require the skillful observation of the physician, and in others some complications exist which require an experienced eye to detect. Therefore, if the case is a serious one, or has been protracted, consult your family physician.

### CONGESTIVE CHILL.

This is one of the most serious diseases that we meet with in the West and South, sometimes proving fatal in a short time, unless promptly combatted. Every person who lives in a section of country where it prevails, should be able to recognize it at once, and be instructed as to its proper management, for in some cases the patient would be beyond the reach of medicine before a physician could be obtained.

**SYMPTOMS.**—Congestive chill commences like any other *ague*, only the depression and loss of strength is much more marked. The surface of the body becomes very cold, the nails and lips are purplish, and the skin of a leaden color; the pulse is very feeble, hardly perceptible at the wrist, and the respiration somewhat difficult; the patient is unnaturally torpid, and if he complains, it is of *stiffness*, heaviness, and a sense of weight in the head. He does not seem to realize his condition, or the anxiety of his friends, and would almost as soon die as live.

As the disease advances, stupor comes on; he lies upon his back, with tendency to slip down to the foot of the bed; the breathing becomes more difficult; the pulse is small, weak and fluttering, or is intermittent, trickling under the fingers like drops of water, and at last can not be felt at the extremities; a cold, clammy perspiration, sometimes fetid, covers the body; the face assumes a leaden, cadaverous hue; the lips are contracted over the

teeth, and the patient dies, reaction not having place.

**TREATMENT.**—The object of treatment is to produce reaction, and all our means will be directed to this end. Give the patient immediately a vapor-bath, named in No. 25, or a hot blanket pack, as directed in No. 25, with bottles of hot water, hot bricks and stones placed around him, to give all the heat that is possible. Do not give in the house any strong stimulant, as life draught, or tincture of prickly ash, or the stimulating No. 87; give it internally, in full doses, every fifteen minutes, until symptoms of reaction occur. If none of these, make a strong ginger, red pepper tea, and give it as freely as the sufferer can bear.

If a physician can not be obtained, procure ten or fifteen doses of quinine, ten grains each, at once, and as soon as they arrive, administer one dose, and repeat every fifteen or thirty minutes, until signs of reaction are manifest. You may give the patient a half an ounce without injury, if the dose is continued, but in almost all cases, two or three doses of this size named will be sufficient.

It must not be considered that the patient is safe when he has recovered from one chill—it is as liable to recur as any other ague, and must be met with treatment as soon as it off. This will be the same as named for remittent fever, with the exception that the dose of quinine will have to be increased.

#### **REMITTENT FEVER—BILIOUS FEVER.**

Remittent fever differs from intermittent, in that it is but one chill, the febrile reaction lasting from the commencement to its termination, but having discharges recurring periodically. Like intermittent fever, it is caused by what is generally termed *marsh malarious*, there is no doubt but that sudden atmospheric

tudes and changes of temperature, by arresting secretion, impairing nutrition, and lessening the vital power of the individual, may form a cause of the disease. It occurs principally in the fall, though many cases are seen in the summer, and even the entire year. It also differs much in its character, being mild in high and temperate regions, and severe in low, marshy and warm countries.

**SYMPTOMS.**—The *forming stage* usually occupies some days, the symptoms being gradually developed. At first there is nothing but a feeling of weariness, especially upon slight exertion. This languor increases, and is accompanied with listlessness, or indisposition to make any exertion; the appetite becomes capricious, with a bad or bitter taste in the mouth; tendency to nausea, with, sometimes, vomiting; the bowels are costive, and skin dry, and more or less pain and heaviness in the head, with, frequently, pain in the back and limbs.

*Cold Stage.* The attack is sometimes ushered in by a well marked chill or rigor, closely resembling the cold stage of an intermittent. Frequently the chill is very slight, and again merely a sense of coldness; or slight chilly sensations pass over the body, which, after a short time, are succeeded by flushes of heat; these alternate, the chills becoming less and less marked, until, finally, the chills becoming less and less marked, until, finally, a febrile reaction is set up. In some cases, especially those in which the chill is marked, nausea comes on, and finally vomiting, about the time reaction sets in. Sometimes there is some pain in the back and limbs during this stage of the disease. The cold stage usually lasts but a short time, one or two hours, but is occasionally protracted.

*Hot Stage.* When reaction ensues, the pain in the back, and limbs increases, being in some cases extremely severe. The temperature of the surface is markedly increased, the skin being dry and constricted, the face flushed and turgid, and the eyes red and suffused. The pulse is full and frequent, rarely tense, and the respiration hurried and uneven. The tongue is covered with a yel-



lowish-white fur, with frequently a disagreeable taste the mouth, and more or less nausea, with oppression and pain in the epigastrium, and in many cases severe and protracted vomiting of bilious matter. All the secretions are checked—the bowels costive, and the urine scanty and high colored, sometimes loaded with bile which gives it yellow tinge. The nervous system in many cases is considerably deranged, the patient being watchful and very restless. There is rarely delirium in the first exacerbations more frequently a marked dullness and torpor.

These symptoms continue from eight to twenty hours, when they gradually pass off; the heat of the surface is diminished, with frequently slight perspiration about the neck and face; the pulse is not so frequent, the pain in the head and back ceases, and the patient feels comparatively comfortable, and sometimes takes a refreshing sleep. This constitutes the period of *remission*, which, in a majority of cases, occurs once in twenty-four hours, usually in the morning, though in some there are two per day, in others a more complete remission occurs every second or third day.

This remission varies greatly in its duration and completeness in different cases; in some it is long and amounts almost to an intermission, in others it is short and the febrile symptoms but slightly abated. Following it, the febrile symptoms reappear with all their first intensity and the hot stage continues to the end of the disease, in a succession of exacerbations and remissions.

In some cases of this fever, we do not observe that the febrile reaction becomes more intense as it progresses, but in others, each succeeding exacerbation is more marked, the remission shorter and less noticeable, until finally the fever is nearly or quite continuous. The irritation of the stomach continues often for two, three or four days; in some cases through the entire disease, if not arrested by remedies.

As might be supposed, the patient's strength fails day

by day, innervation and secretion become more and more impaired, until by the seventh or eighth day we find him in one of two conditions. The fever having lost its original type, has become an adynamic continued fever, with typhoid symptoms. Or, the patient's strength having become greatly exhausted, we observe a want of reactive power, there is a tendency to congestion during the remissions, at which time the surface becomes cool, sometimes covered with a clammy perspiration, the pulse is small, weak, intermittent, and respiration short, quick and difficult; coma makes its appearance, the patient lies upon his back, slips toward the foot of the bed, there is a jactitation, picking of the bedclothes, and after one or more unsuccessful attempts at reaction, the patient dies. In this last case, the disease terminates fatally as a remittent; this, however, is a rare termination, for if not arrested during the first week, it generally assumes a continued form, and presents all the symptoms of a continued fever.

TREATMENT.—If it is remembered that a remittent fever will run a course of from seven to fourteen days, we will have more patience, and not try to do too much. Let the patient have rest, and everything that conduces to this will be of advantage.

The fever may be lessened by the administration of Aconite, five drops to a glass half full of water, a teaspoonful every hour. In place of the Aconite, if the person is stout and has a full pulse, Veratrum may be used. If the person is restless and complains of pain in the forehead, five drops of Rhus may be added to the Aconite water.

When the nausea is extreme we will have to determine whether it will be best to empty the stomach with an emetic, or give remedies to relieve irritation. Frequently a cup of tepid water to aid vomiting, followed by a cup of hot water to relieve irritation, will leave the stomach in good condition. To check nausea and vomiting we use Nux, if the face is pale; Ipecac, if the face is flushed. In using Nux, and two to five drops of the tincture to half a glass of water and give a teaspoonful every fifteen minutes or half hour.



Giving Ipecac we add ten drops to the water containing the Aconite. In either case, a mustard plaster or cloth wrung out of hot water may be applied over the stomach.

In two or three days we will find the fever going down, and the remission will be much more marked. Now, during the remission, we give quinine to arrest the fever. The quantity required will be from ten to fifteen grains divided into two or three powders, the first to be taken as soon as the fever commences to decline, the last one an hour previous to the time when it rises.

Great relief is often experienced by sponging the body frequently with broke-water, or water to which saleratus has been added so as to render it a little slippery. If there is much nausea, or constant thirst, a towel wrung out of cold water and applied to the stomach answers an excellent purpose. If the patient is restless and irritable, especially if the head is hot, bathe it and the face with warm water, allowing it to evaporate. In this, as well as all other fevers, the patient's clothes should be frequently changed, and the bedclothes and everything about the person should be kept scrupulously clean. A person suffering from fever wants but little to eat, but that little should be well prepared. Corn meal gruel, or thin farina, tapioca or hot milk, answers an excellent purpose, and instead of these, nice chicken broth or beef tea may be given.

### YELLOW FEVER.

Yellow fever is a disease of warm climates, prevailing principally in the torrid, and southern part of the north temperate zone. It is evidently closely allied to remittent fever, as it prevails in those sections, and those only, which are regarded as malarious. It makes its appearance in epidemic form in the latter part of the summer, and ceases its ravages with the first frosts. For its production it appears to be necessary, that the causes of vegetable malaria shall exist with intensity; that there shall be more or less decomposing animal matter, with a high range



heat for many days consecutively. Certain sections of country appear to possess all the elements for the generation of the disease, and hence it makes its appearance with great regularity at such period of the year, as gives the necessary high and long continued heat for decomposition.

Persons who have long resided in those sections have usually an immunity from the disease, which is doubtless owing to such gradual change in the constitution as enables it to throw off the malarial poison; such persons are said to be acclimatized. Persons from the north, or sections free from these malarial poisons, residing in a country where yellow fever prevails, are most liable to the disease. It is generally admitted that it is not contagious, at least not more so than other fevers where decomposition is speedily set up after death, or even before dissolution, as in *typhus*, and some cases of typhoid fever. There can be no doubt that the emanations from such persons are poisonous to those whose vitality has been impaired, and that if absorbed they will give rise to adynamic fever.

**SYMPTOMS.**—Yellow fever may be divided into three stages, which in many epidemics are well marked, but in others are indistinct. These are, first, a stage of primary fever, lasting from thirty to seventy hours; second, a stage of remission; and third a stage of collapse.

*First Stage.*—This stage is sometimes preceded for some hours or days with the usual prodromal symptoms of fever. Languor, listlessness, failure of appetite, and more or less pain in head, back, and limbs. Chilliness precedes febrile reaction in a majority of cases, though a well marked cold stage is rare. With the development of febrile reaction, the skin becomes hot, dry and harsh; the urinary secretion is arrested, and the bowels are obstinately constipated. The patient suffers severely with pain in the back, limbs and head, and is extremely restless and uneasy. Much irritation of the stomach exists from the first, with pain and sense of oppression in the epigastrium; in a majority of cases vomiting speedily comes on, and continues through

this stage—the retching and ejection from the stomach being painful and difficult. The eyes are generally suffused, reddened, and very sensitive to light, presenting the appearance that would follow exposure to wood smoke; this has been looked upon as almost a pathognomonic symptom by some. The pulse varies greatly in different cases; in many, it is hard, quick and irregular; in others, small, corded and oppressed; and in others not different from what it would be in a simple remittent. The tongue hardly ever presents the same appearance; sometimes clean, again broad, flabby, and covered with a thin, white coat; again reddened at tip and edges, pointed and coated in the center; and again presenting a thick yellowish, or yellowish brown coat. As before remarked, this stage varies in duration, and there is just as much variation in its intensity.

*Second Stage.*—The febrile action gradually abates; the vomiting ceases, or is less constant; the pains are much ameliorated; the skin becomes softened, and frequently covered with perspiration. The patient feels comparatively well, though exceedingly debilitated, and has hopes of speedy recovery, and yet, even now, may be noticed that yellowish discoloration, manifesting itself in the conjunctiva, and the skin of the forehead and breast, the precursor of that third stage, from which it is so difficult to recover. This remission, sometimes so complete, can hardly be noticed at others, but the first rapidly passes into the third stage, or collapse. It is always of short duration, not more than from two to ten hours.

*Third Stage.*—In this stage the pulse becomes very feeble, and the prostration is excessive; the yellow appearance of the skin, which gives the disease its name, becomes plainly visible, and continues to deepen as the disease advances. The irritability of the stomach is excessive; nothing can be retained, but the vomiting now is easy. The material ejected from the stomach is peculiar, being very dark colored, and hence known by the



me of black vomit: this dark colored material has been determined to be broken down blood. Diarrhœa frequently ensues, the discharges from the bowels resembling what is ejected from the stomach. The respiration is hurried and difficult, with frequent sighing, and the patient complains of an intolerable oppression and distress at the æcordia. The powers of life rapidly fail; slow delirium or coma comes on, and death soon eases the patient from this intolerable suffering.

TREATMENT.—With the commencement of the disease, bathe the patient's feet thoroughly in hot mustard water, bring a sheet folded out of cold water, and wrap around the bowels and cover warmly in bed. Now, give small doses of podophyllin and cream-of-tartar, about one-fourth of a grain of the first, to ten grains of the second, every two hours until it operates. If there has been considerable nausea and vomiting, give a thorough emetic before using the means named. An infusion of peach-tree bark may be employed to check irritation of the stomach, and warm diaphoretic teas to produce sweating. As soon as a remission in the disease occurs, quinine should be given, about fifteen or twenty grains at two doses, with tincture of gelsemium in half teaspoonful doses every two or three hours.

After this the treatment will have to be conducted on general principles, meeting the indications as they arise. The stomach must be kept quiet, diarrhœa arrested if it appears, the patient's strength kept up by the judicious use of stimulants and nutritious but easily digested food, and especially must normal circulation in the skin and extremities be maintained, and free secretion from the kidneys. Convalescence is slow, and must be managed with great care; any indiscretion in regard to diet or exposure tending to produce a relapse.



**COMMON CONTINUED FEVER.**

This form of fever occurs in persons of moderate strength of constitution, and when there has been no previous cause acting on the system to lower the vitality, or permanently derange the excretory organs, and the constitution of the blood. At its commencement we notice no symptoms of great impairment of the fluids, though should the disease continue long, such change in the blood will occur as to give rise to *typhoid* symptoms. This is the disease which in the majority of cases, has been designated as typhoid fever, because if allowed to progress, such symptoms become manifest; but more frequently because popular opinion regards the last named fever as an exceedingly dangerous disease, and physicians like to claim the credit of curing it. I use the term typhoid in its literal meaning, "*resembling typhus*," and apply it to those cases exhibiting marked loss of vitality, and commencing necræmia. If it was strictly used in this sense, we could understand better, perhaps, the treatment necessary to its arrest; at least, we would be able to attach some meaning to much that is written about typhoid fever.

CAUSES.—The *predisposing* causes of this, as well as typhoid fever, are all such as occasion temporary exhaustion and want of power in the system to react and expel disease. The *exciting* causes are numerous: as an arrest of secretion, and retention of excrementitious material; the absorption of exhalations from vegetable and animal matter undergoing decomposition; animal miasms, as from healthy persons or animals crowded together, or confined in imperfectly ventilated situations, and without due regard to cleanliness; from persons laboring under disease of any kind in ill-ventilated apartments. "Every population," says Mr. Chadwick, "throws off insensibly an atmosphere of organic matter, excessively rare in country and town, but less rare in dense, than in open districts;

and this atmosphere hangs over cities like a light cloud, slowly spreading, driven about, falling, dispersed by the winds, washed down by showers. It is not *vitalis halitus*, except by origin, but matter which *has lived*, is dead, has left the body, and is undergoing decomposition into simpler than organic elements. The exhalations from sewers, church-yards, vaults, slaughter-houses, cess-pools, commingle in this atmosphere; and, notwithstanding the wonderful provisions of nature for the speedy oxidation of organic matter in water and air, accumulate, and the density of the poison (for in the transition of the decay it is a poison), is sufficient to impress its destructive action on the living, to receive and impart the processes of zymotic principles, to convert by a subtle, sickly, deadly medium, the people agglomerated in narrow streets and courts, down which no wind blows, and upon which the sun seldom shines." I have never as yet seen a case of this or typhoid fever, but what I could discover in the present or previous location of the patient, the presence of decaying animal matter, to account partially, at least, for the character of the disease.

**SYMPTOMS.**—The *stage of incubation* is generally of some days duration, though when the cause is intense, it may be brief. The patient complains of languor, indisposition to exertion, loss of appetite, irregularity of bowels, dryness of skin, and more or less pain in head or back, and soreness of muscular tissue. These symptoms increasing, at last a tolerably well marked chill comes on, the patient feels cold, especially at the extremities, and chilly sensations pass over the body. These are shortly alternated with flushes of heat, which become more and more marked, until febrile reaction is established. In rare cases, the cold stage is as well marked as in an intermittent, amounting to a rigor; in many the patient hardly notices the cold stage, it is so slight.

With the development of reaction, the skin becomes hot and dry, the urinary secretion scanty, high colored,



and does not deposit a sediment, and the bowels are constipated. The mouth is dry, and the tongue coated with a slightly yellowish-white coat, or in some cases a heavy yellowish coat on base, with a bad taste in the mouth and slight nausea; in others, the gastric mucous membrane being irritable, it is elongated, the tip and edges reddened, but coated white in the center; there is thirst, but not so intense as in the preceding form of fever. The pulse is frequent, full, sometimes hard, especially if there is irritation of the mucous membranes, or cerebro-spinal centers, but rarely bounding. In some cases there is nausea and even vomiting; but if so, the tongue will either be found heavily coated at base, with a disagreeable taste in the mouth, and sense of oppression in the epigastrium, or pointed, with reddened tip and edges, and tenderness on pressure over the stomach.

The condition of the nervous system is variable: sometimes the patient is restless, uneasy, and watchful, the special senses being painfully acute, so that the patient can not bear a bright light, and is disturbed by the slightest noise; at others, he lies torpid, does not appear to appreciate his condition, is but slightly affected with what transpires around him, and lies quiet in one position. In either case there may be headache; in the first it is acute, the face being flushed, and eyes reddened, evidencing determination of blood; in the last it is generally dull, a disagreeable sensation of heaviness and oppression.

The symptoms above named increase in intensity till the third or fourth day, after which the fever exhibits but little change, if uncomplicated, except the increasing debility, until after the seventh day; when, if it does not terminate by the establishment of secretion, either naturally, or by the aid of medicine, we observe symptoms of deterioration of the blood, and prostration, making the appearance, and after a variable length of time a low typhoid condition ensues, and we have in fact to treat fever of the next variety.



COMPLICATIONS.—This form of fever is frequently complicated with local disease, most generally of an inflammatory character; yet, as the fever is fully developed before the local disease commences, the symptoms of the latter are often very obscure.

TREATMENT.—I believe that this fever can be arrested, in a majority of cases, at any period of its course, previous to the development of low typhoid symptoms, and in this I differ from a majority of the profession. I might have said I know it, for such has been the result in my practice too frequently for it to have been accidental. In giving the treatment, I will here only give the abortive plan, and refer the reader to the next form of fever for other treatment, for if not stopped, there is nothing more certain than that it will assume that form.

There are three principal and well defined indications for the arrest of this disease, and if by medicinal means they can be accomplished, the fever will be arrested. First, to produce arterial sedation, and its attendant relaxation, and a diminution of the heat of the body. Second, to establish excretion, and eliminate the broken down elements circulating in the blood. And third, to restore the tone and integrity of the nervous system.

To accomplish the first, we have the direct and indirect sedatives. I prefer the direct sedatives, but might here remark that unless properly used, they are frequently inefficient, and sometimes even harmful. The influence desired is gradual but permanent sedation, without prostration, and I hold that this can only be obtained in a majority of cases by small doses frequently repeated, giving sufficient time for the accomplishment of the result, say from three or four to ten days, according to the condition of the patient. In my practice, I use the tinctures of veratrum and aconite, in the proportion of ten drops of the first, and five of the second, to four ounces of water, a teaspoonful every hour, with the frequent use of the sponge bath. The influence is very gradual, but it

is permanent, and as sedation increases, hour by hour, I find increased strength of pulse, a greater equality in the circulation, and better innervation.

As soon as sedation is effected, the patient feels comparatively comfortable; the skin is cool, and it is evident that mild means will now establish secretion from the skin and kidneys. The mild diaphoretic infusions will be sufficient to excite an action of the skin, whilst we act upon the kidneys by giving a weak solution of acetate of potash, (see No. 41.) If from the symptoms we judge there are accumulations in the bowels, producing irritation, we administer a mild cathartic, not otherwise.

Recognizing the tendency to typhoid, we use the antiseptic remedies early in the treatment. If the tongue is broad, pallid, and dirty, sulphite of soda in ten grain doses every three hours. If the tongue is red and slick, sulphurous acid in half-teaspoonful doses every three hours. If the tongue is dry, deep red, and coating brown, a tablespoonful of *hard* cider every two or three hours. If the patient looks like one exposed to severe cold, the remedy is Baptisia, ten drops of the tincture to the water containing the sedative.

In those cases in which the tongue is heavily loaded with nausea and oppression at the epigastrium, all treatment must be preceded by a thorough emetic. In this condition, no remedies will produce a favorable influence until the morbid accumulations in the stomach are removed, and if not done, the prostration will be rapid, and typhoid symptoms speedily manifested. If there is irritation of the stomach, this must be first subdued. Counter-irritation to the epigastrium and extremities, with the employment of those agents known to relieve gastric irritation, should be used here. Frequently the employment of stimulant enemata, by stimulating to action the lower intestine, and producing free evacuation, will greatly aid the other measures. The enteric disease should be controlled, as named under typhoid fever.

Though I have here given the treatment in full for the



disease, as I will for the next, it is not to be expected that the family will take the management of such a grave case. It will indicate to them the proper course to be pursued, and thus favor a rational treatment, as opposed to the harsh medication so frequently adopted, and which destroys more patients than the disease itself. The management of the sick will be the same as described under the head of bilious fever, and the next variety of the disease.

### TYPHOID FEVER.

It will be recollected that any fever, either idiopathic or symptomatic, will assume a typhoid character, if it continues sufficiently long for the blood to become engaged in a process of decomposition. Now, in all such diseases we notice that there is more or less rapid breaking down of the tissues, and the excretory organs being in such condition that it cannot be freely removed, the detritus of the body remains in the blood. This material is undergoing *retrograde metamorphosis*, and it is a well ascertained fact that in certain conditions of the system this decomposition is propagated in the blood. If these be facts, we can readily see how a patient may be poisoned by the breaking down and retention of his own tissues. Thus, says Dr. Williams, "In several cases of the early stage of the severest form of Bright's disease, in which the urine was very scantily secreted and highly albuminous, I have seen *typhoid* symptoms of the worst character ensue, accompanied by a breaking up and partial solution of the coloring matter of the blood, with the appearance of pus globules in it."

There are causes producing fever which affect the integrity of the blood at the beginning, setting up within it a process of decomposition, which is more or less rapid, according to the degree of vital power in the system. Such causes would produce *typhoid* fever, and if the vital power of the patient was depressed at the time of expo-



sure, the symptoms would be evident from the commencement.

CAUSES.—The *predisposing* causes of typhoid fever are all such as greatly depress the vital power of the system, either temporarily or permanently, and we might say, with truth, that no person, unless originally of feeble vitality, or laboring under some cause that produces depression at the time of exposure, can have primary typhoid fever. It is true that if the cause acting upon the system was very intense, the disease might be rapidly developed. Animal *miasmata* is the exciting cause of the disease, and by this we understand *animal matter in a state of decomposition*. Liebig says, "An animal substance in the act of decomposition, or a substance generated from the component parts of a living body by disease, communicates its own condition to all parts of the system capable of entering into the same state, if no cause exists in these parts by which the change is counteracted or destroyed." Thus, exposure to gaseous exhalations from animal matter undergoing decomposition, or arising from persons suffering from low typhoid disease, the material gaining entrance into the blood through the lungs will, if there is not sufficient resistance in the system, set up a process of decomposition, which continuing, will give rise to the phenomena we observe in this form of fever. Thus, in those cases in which decomposing animal matter is introduced into the system by a *dissecting wound* we observe, first a chill, then febrile reaction with great depression, and finally, evidence of complete death of the blood, all the symptoms of reaction being of a typhoid character.

This form of fever may be either *endemic, sporadic, epidemic* or *contagious*; if endemic, we will find a more less intense local cause; if sporadic, the miasm may have been speedily generated and dispersed; if epidemic, we have to look to the condition of the atmosphere, as regards moisture and temperature, for the rapid propagation a

spread of the miasm. That in certain conditions the disease is contagious, I believe few will deny. Thus, from a person suffering from low typhoid fever, there is continually given off in the excretions, and from the lungs, matter in a state of decomposition, and if proper attention is not paid to ventilation and cleanliness, these exhalations assume a degree of intensity that will unfavorably impress all that come within their reach, and will give rise to the same form of fever, in those predisposed to disease.

**SYMPTOMS.**—The stage of incubation is frequently of considerable duration in this disease, the symptoms being those of depression. The patient complains of languor and debility, with giddiness, dullness, and confusion of intellect; the appetite is impaired; uneasiness at the epigastrium, and sometimes slight nausea; a general sense of soreness and stiffness, with more or less pain in the back and limbs, is not unfrequent. These symptoms increasing for two or three days, the patient complains of slight chilly sensations, with coldness of extremities, which becoming more marked, are alternated with flushes of heat. This chill lasts from six to eight hours, but sometimes is prolonged to one or two days.

With the development of reaction, the pulse becomes frequent, full and open, or soft and weak, in some cases soft and easily compressed, or if of a nervous character, quick and sharp. The tongue is generally loaded with a dirty mucus, and is broad, soft, flabby and moist, but sometimes coated in the center, but with reddened tip and edges; there is considerable thirst. In some cases the tongue is heavily loaded, especially at the base, with bad taste in the mouth, and feeling of oppression at the epigastrium, indicating morbid accumulations in the stomach. The urine is slightly diminished in quantity, appears turbid and frothy, but does not deposit a sediment; the bowels are frequently natural as to frequency, but extremely susceptible to the action of medicine; the discharges being thin, pale and frothy. The temperature of

the surface varies greatly, sometimes it is intense and pungent, but more frequently, but slightly increased with tendency to coldness of the extremities. The countenance is dull, pallid and shrunk, or transiently flushed, the eyes heavy and devoid of luster, and the head heavy, confused and giddy. The patient sometimes exhibits great uneasiness, and is restless, changing his position frequently, but at others is torpid, careless and unimpressionable. The respiration is frequently but little affected the first two or three days, but sometimes frequent and suspirous.

By the fifth to the eighth day we find that the head has become more affected, and the mind is confused, the patient reasons with difficulty and answers slowly. Sometimes, even at this early period, we have a partial development of that dreamy delirium termed *typhomania*. The respiration has now become affected, and is short and quick, or labored and suspirous. In many cases symptoms of enteric affection begin to manifest themselves; the bowels are irregular, two, three or four evacuations in the twenty-four hours, watery, yellowish, clay-colored, frothy and foetid. The urine is but little diminished in quantity, but is pale and frothy, resembling whey or new made beer. The patient, in many cases, now begins to complain of tenderness of the bowels, and it will be found that pressure produces pain.

By the tenth or twelfth day, the bowels have become quite loose, the operations frequent and difficult to arrest, with increased tenderness on pressure, and flatulent distension of the abdomen. The coating of the tongue has been gradually changing its color, and is now coated brown, somewhat fissured, or sometimes the coating has disappeared and the tongue is dry, red and glossy; sordes commence to appear upon the teeth and lips. *Typhomania* has now become fully developed, the patient appears half-asleep, his mind wanders, he talks to himself of his business, his pleasures, or, reveling in the chambers of



memory, he appears to be living his past life over. Sometimes this typhomania is replaced by *coma-vigil*, the patient appears to be in a profound stupor, but is aroused by the slightest sound, to immediately sink back into his former condition. About this time, though sometimes as early as the fifth day, the *rose-colored eruption* makes its appearance upon the breast and neck; this eruption manifests itself in small rose-colored spots about the size of the head of a pin; the color disappears upon pressing the finger over them, but returns when the pressure is removed. Malaria sometimes makes its appearance at this time, in the shape of minute vesicles, filled with limpid serum. The patient has now become so prostrated that he requires assistance to get up in bed, or change his position.

From this to the twentieth day, the diarrhœa becomes worse, the discharges being dark, fœtid and very offensive, and the abdomen very much distended; the coating upon the tongue becomes almost black, and the teeth and lips covered with a dark, offensive sordes. The prostration is extreme, and the stupor profound. Frequently the heat of the surface sinks, the extremities being kept warm with the greatest difficulty; and sometimes there is fœtid perspiration. Petechiæ sometimes make their appearance in the shape of small, purplish-red discolorations, not effaced by pressure; these extending, form vibices. The posture is constantly supine, with tendency to slip down to the foot of the bed. The fæces and urine are now discharged involuntarily, or in some cases there is suppression of urine, which, if allowed to continue, will cause great distension of the bladder, with rapid prostration and death. Subeultus tendinum comes on, with picking at the bed-clothes, and finally jactitation. At last, the vitality of the patient is so far exhausted that there is no longer power to circulate the blood, and the patient dies.

TREATMENT.—The object of treatment at first, is the arrest of the fever, and this can be accomplished, in many cases, by the fourteenth day, and before the severer symp-

toms make their appearance. The abortive treatment is the same as in the preceding disease, but I will repeat it.

First, if there is evidence of morbid accumulation in the stomach, this must be removed, or all treatment will prove unsuccessful. I know from personal observation, that where the stomach is thus oppressed, typhoid symptoms rapidly supervene, and the probabilities are that the patient will die; and farther, that such accumulation in the stomach, proves the cause of the rapid development of the enteric disease in many cases. In this case, an emetic precedes all other treatment, the acetous emetic tincture, or compound powder of lobelia and capsicum being my favorite agents; if there is great prostration, a stimulant should be combined with them. The action of the emetic should be prompt and thorough, and aided by warm stimulant diaphoretic infusions, which should be continued afterward to produce diaphoresis, aided by the hot mustard foot-bath, and warmth applied to the body. As soon as the emetic has ceased acting, the special sedatives should be administered in doses just sufficient to continue the influence produced by it. If, in the early part of the disease, the bronchial mucous membrane or lungs become affected, the same treatment should be adopted, with the addition of counter-irritation.

In other cases we commence with the use of the special sedatives, veratrum and aconite, giving them as heretofore recommended. Add ten drops of tincture of veratrum, and five drops of tincture of aconite, to four ounces of water, and give a teaspoonful every hour.

If the skin is hot and pungent, the alkaline sponge bath should be employed, three or four times a day, but if there is deficient capillary circulation, with tendency to coldness of the extremities, a sufficient quantity of tincture of capsicum, added to water, to give the necessary stimulation, should be employed in its stead. The extremities *must* be kept warm, or the entire treatment will fail, because, if they are cold, with deficient capillary circula-



on in the skin, there is stasis of blood in internal organs, which suffer as well as the blood, and if sedatives are now administered, these conditions are increased, and though the pulse is diminished in frequency, it is also decreased in strength, with still further congestion. Sometimes I find it necessary to order the frequent application of tincture of capsicum, or other strong stimulant, to the extremities, with the constant use of bottles of hot water, etc.

The dose of veratrum named, is about the medium quantity; where there is evidence of congestion it will have to be smaller, if the febrile reaction is vigorous, it may be increased. I do not desire marked sedation under twenty-four hours, and many times not before forty-eight, or seventy-two hours. We will notice, that the above remedies, used in this way, gradually decrease the frequency of the pulse, but it becomes more full, stronger, and especially better in parts far from the heart, with better innervation. At last, the pulse coming down to eighty or ninety beats per minute, we observe evidence of commencing secretion. Now, diaphoretics and diuretics may be advantageously employed, the sedative being continued in doses just sufficient to maintain its effect. The preparation of *asclepias*, above mentioned, I use, first, for its gentle stimulant and soothing influence, upon the nervous system, and because it tends to stimulate circulation to the surface, but now it may be continued as a diaphoretic, or other gently stimulant agents used in its place. As a diuretic, I employ a weak solution of equal parts of chlorate and acetate of potash, the medium dose of each being about five grains every four hours.

From the commencement of the treatment some of the antiseptics should be employed, and much depends upon their proper selection. Turning to page 296, the reader will see the reasons why we select one of the four—sulphite of soda, sulphurous acid hard cider or *Baptisia*. Chlorate



of potash is selected as the antiseptic remedy when there is a very bad odor from the patient. If neither of these remedies can be obtained, put a lump of borax in a glass, fill it with water, and then let the patient sip from it as he wishes.

During this time, the patient should be freely supplied with diluents, and such light food as the appetite craves, and we think can be easily digested. Every thing in the room and about the patient should be kept scrupulously clean, and the apartment thoroughly ventilated by admitting air from the sunny side of the house, and keeping an open fire in the room. Few persons should be in the room at a time, and the patient's mind kept calm; especially should care be used not to excite expectant attention in the patient by secret movements, whispered conversation, or by failure of attention at the time expected. More depends upon this, than is generally admitted by physicians. We can not "kick nature out of doors, and depend upon the materia medica," as has been advised by a somewhat prominent physician.

When the disease has progressed for some days, and the blood becomes seriously affected, we may not be able to arrest it, at least, not speedily, and we must adopt additional treatment to meet the development of low typhoid conditions.

When tenderness of the bowels is first noticed, the use of dry cups, followed by the application of tincture of arnica, and turpentine, to the abdomen, will be found beneficial. Sometimes warm stimulant fomentations produce a good effect. If, at this time, there is torpor of the bowels, with indications that retained feces are producing irritation, a *mild* cathartic, carefully administered, will be advantageous; *under no other circumstances should cathartics be employed.* The diarrhœa may be controlled at first, by the employment of any of the mild astringents, frequently the tris-nitrate of bismuth in solution with peppermint

ation of turpentine, demulcent enemata containing the  
and its internal administration with tincture of xan-  
lum. Dr. Stokes strongly recommends enemata of  
and asafœtida, as the most efficacious means of  
ing this condition.

prostration of the nervous system is combated with  
bitter tonics, stimulants, and the regular adminis-  
n of small quantities of nourishment, as hot milk,  
When manifested by typhomania, or coma vigil, the  
nated tincture of valerian, with camphor, tincture  
pripedium, or serpentaria, may be used with advan-

If there was imminent danger to the patient, and  
ially if the discharges from the bowels were copious,  
ld administer opium, with camphor and warm aro-  
spices, the dose of the first being large enough to  
e sleep, say from one to two grains.

control the septic condition of the blood, acid drinks  
d be freely given, when desired by the patient. The  
ate of potash, combined with hydrochlorate of am-  
t, is often useful. When the diarrhœa is profuse,  
lorinated soda, or Labarraque's solution, is probably  
est of the chlorides; its administration should be  
enced in doses of fifteen drops, in aromatic water,  
three or four hours, increasing it as the disease pro-  
s, to thirty or forty drops. Yeast has been em-  
l with advantage in doses of two tablespoonfuls

water, and given in doses of a teaspoonful every one or two hours.

With the exception of quinia, I doubt much whether any advantages result from the administration of the bitter tonics. Stimulants additional to those named are required in the advanced stage of the disease, but they must be administered with care; small quantities, frequently repeated, so as to keep up a continued influence, are beneficial, but under no circumstances should the system be over stimulated by large doses, and the stimulant then stopped, for the prostration ensuing might be fatal. Small quantities of bland, nutritious food should be regularly administered, and bland, mucilaginous or acid diluents sufficient to satisfy the patient's thirst.

The patient's position should be frequently changed, and the bed shook up beneath him, and the cover straightened out. This is necessary to prevent injurious pressure on any part, which might give rise to *bed sores*; if any part becomes tender, with dark discoloration, or blanched white appearance, dilute tincture of arnica and means to remove the pressure from the part should be employed. If bed sores form, they should be washed with a solution borax, from ten to thirty grains to the ounce of water, or they may be dusted with bismuth, the pressure being removed. This is generally sufficient for a cure.

If the disease exhibits a tendency to yield during the latter period of its progress, excretion should be aided by *mild* diaphoretics and diuretics, though under no circumstances must an additional amount of heat be applied to hurry their action. As soon as secretion commences, quinia may be given in small doses with advantage. Convalescence must be managed with great care, when the patient has been thus prostrated. Nourishing food of easy digestion, taken in small quantities, with gentle stimulants and tonics, pure air, light and sunshine, are required. As convalescence becomes established, animal



tha, with easily digested solid food, may be taken, but etly prescribed by the physician, as to kind, quantity, l frequency.

### ERUPTIVE FEVERS.

This class of diseases is propagated by a *specific contagion*, hich, gaining access to the blood, generates the same ecific virus, and is then thrown upon the surface in the rm of an eruption. These diseases are most frequently ontracted by the inhalation of gaseous exhalations from patient suffering from the disease, or from the discharges, nd also by personal contact, the morbid material being bsorbed from the skin. The most of them may likewise e communicated by *inoculation*, or the introduction of he virus, or even the blood of a patient suffering from he disease, under the epithelium by puncture, or from any part of the body, if there is an abrasion. They are not only contagious, but they sometimes become *epidemic*, which is undoubtedly occasioned by some change in the constitution of the atmosphere, inappreciable to us, but which favors the spread of the specific poison. These affections differ from all other forms of fever, in that an attack protects the individual from ever having the disease again, even though being exposed to the cause; to this there are some rare exceptions.

### SMALL-POX.

**SYMPTOMS.**—The symptoms depend much upon the constitution of the patient, the intensity of the cause, and the state of the atmosphere, whether epidemic or not. The disease has been divided into several varieties by authors, according to its intensity; we need notice but two: the *discrete* and *confluent*; the first mild, the points of eruption being distinct and separate, the second severe, the eruption being profuse, and so closely situated as to

run into one another. In describing the course of the disease, the symptoms of the discrete will be first named, and followed by the confluent. We divide the disease into three stages: 1st, of *incubation*; 2d, of *maturation*; and 3d, of *decline*.

*Stage of Incubation.*—This comprises the period from exposure to the cause, to the development of the chill, and may be from seven to sixteen days, usually about twelve days when the disease is contracted in the natural way. At the time of exposure the patient may feel unpleasantly impressed by the morbid poison, yet frequently no notice is taken of it. Generally about the sixth or eighth day the disease begins to manifest itself by a sensation of weariness, languor, and irregular appetite and excretion. These symptoms increase until the day preceding the chill, the patient now feeling so bad that he can not follow his usual employment. In addition to the symptoms named, the patient now complains of soreness of the muscular tissues, pain in the back, weight and heaviness in the head, and more or less nausea.

The chill varies in intensity, sometimes it is but slight; chilly sensations pass over the body, which after some time are attended with flushes of heat; more frequently there is well marked coldness of the surface, and again a well developed rigor. The chill varies in duration from two to four, or even more hours. During this period the pain in the back and limbs becomes more marked, and there is sometimes nausea and vomiting.

With the development of febrile reaction, the skin becomes hot, the pulse accelerated, the bowels constipated, the urine scanty and highly colored, pain in the head, with greatly increased pain in back and limbs; sometimes the pain is so intense that the patient can not get rest in any position. In the mild or discrete form, the fever may be about as high as common continued fever, though in mild cases, it is sometimes very slight. In the severe, *confluent* form of the disease, the fever is generally intense,

the pain severe, and the patient extremely restless; frequently delirium makes its appearance on the second or third day. In some fearfully intense cases there is marked prostration of the nervous system from the beginning, which is speedily succeeded by low delirium or stupor; the skin being hot, pungent, turgid, and dusky, or the heat confined to the trunk, the extremities being cold.

At the end of forty-eight hours from the chill, the eruption usually begins to manifest itself in the form of minute, reddened papulæ, at first on the face, wrists, breast, and where the skin is thin and delicate, gradually extending over the entire surface, becoming complete about the end of the third or fourth day. When the fingers are passed over these papulæ, they feel like small tubercles in the true skin, about the size of a pin's head; a minute vesicle forms on the apex of each within twelve or twenty-four hours after its appearance, which, enlarging, forms the small-pox pustule. In the discrete form of the disease, these papulæ are not very closely set together, sufficient room existing between them for their full development; they are usually grouped together in threes or fives, with considerable space between the groups. In the confluent form they are closely set together, being very numerous, so that when developed they press against one another, giving rise to erosion of their walls and final coalescence. In the mild form, the fever becomes much mitigated upon the appearance of the eruption; but in the other there is frequently little or no decrease in the fever, delirium being present in many cases.

*Stage of Maturation.*—This stage embraces the period from the appearance of the eruption to its full development and rupture, usually eight or nine days. The course of the eruption is as follows: The small vesicle increases in size as it fills with a clear whey-colored fluid, and is bound down in the center, giving it an umbilicated appearance. About the fourth or fifth day of the eruption, a red areola appears around the base of each vesicle; com-



ment, and rendered comparatively mild, and its duration shortened. If the doctrine of contagion heretofore advanced be true, means that would lessen the intensity of the febrile exacerbation, would prevent an increased generation of virus, and the same would be accomplished so keeping the surface that the eruption could readily be thrown out. Now, whether these are facts or not, we know that when this is accomplished, the eruption is comparatively light.

Before the eruption, as we have no positive means of determining that it is small-pox, we would treat it the same as any other fever. For instance: if there was nausea, with indications of morbid material in the stomach, an emetic should be employed; if there was constipation, a mild cathartic. The special sedatives should be employed to lessen the febrile reaction, assisted by the frequent use of the alkaline sponge bath. The patient should not be kept too warm, neither should heating remedies be employed to cause determination to the skin. If there is much restlessness, sleeplessness, and delirium, the head may be sponged and feet bathed in hot water.

If such course is pursued, few severe confluent cases will be met with. *All heating and irritant applications to the skin, and internal remedies calculated to produce determination to the surface, will increase the eruption and aggravate the disease.* When the eruption makes its appearance we continue the same treatment, though the sedatives will now be used in small doses. The sponge bath, two or three times daily, should still be used, and continued until maturation is complete; Castile soap and warm water is the best that can be used. Those who have never adopted this plan would be surprised to see the influence that is exerted upon the system by keeping the skin thoroughly cleansed. To prevent pitting, the room should be kept dark, and the face not exposed to the action of heat and light; in addition, all that is required is the free but gentle use of soap and water, and the ap

ation of sweet oil, when the pustules commence to rupture, to keep the skin soft. During the period of maturation the patient needs constant support, and should, therefore, have a light and nutritious diet; corn-meal gruel is the best article that I have ever employed. If strict cleanliness has been observed, there will be but little secondary fever.

In those cases in which marked lividity of the surface presents itself, either before or at the time of the eruption, with great nervous prostration, an emetic should be administered, and the warm bath prescribed. When there are indications of serious lesion of the blood, those antiseptic agents, named under the head of typhoid fever, should be resorted to. If any complication arise, it should be treated as named under the particular affection, as the treatment will not generally interfere with that for the eruptive fever.

### **VARIOLOID.**

This is but a modified form of small-pox; the system having been partially impressed by the vaccine disease, the variolous affection is very mild. The symptoms are those of the mildest form of the discrete small-pox, though its course is shorter and more irregular. The treatment should be the same as for variola.

### **VACCINATION.**

Vaccination, as a preventive of small-pox, was discovered by Dr. Edward Jenner about the year 1775. Dr. Jenner first noticed, whilst studying medicine, that in the dairy districts of Gloucestershire there was a current opinion that certain persons who had contracted a pustular disease from the cow were exempt from small-pox. His mind was strongly impressed by the fact, and he commenced its investigation. It was not until 1796, how-

ever, that he became sufficiently convinced to attempt the propagation of the disease by inoculation. His first case was entirely successful; the disease was transmitted, and two months afterward, upon being inoculated with small-pox virus, it was found not to have the slightest influence. He published the results of his investigations in 1798, but they were received with incredulity by the mass of the profession, and met with the most bitter opposition from many. The evidence, however, soon became so strong, that vaccination was adopted with eagerness as an invaluable boon, warding off, as it did, the most fell disease of that period.

COW-POX IN THE COW.—The disease in the cow is of rare occurrence, and hardly ever manifests itself except where cattle are collected together in herds. It was stated by Jenner that the disease of the cow originated from the *grease* of horses, being communicated from the heels of the horse to the udder of the cow, by those having the care of them. Whether this was the cause or not, it is a well-proven fact, that the disease of the horse can be propagated to the cow, and thence to man, producing the vaccine disease; and, farther, that inoculation with the matter from the horse will prove a prophylactic, if it is not the same disease. The Edinburgh Journal of Medical Science states: "That the matter used at Vienna, from 1799 to 1825, was partly British vaccine and partly originated from the grease of a horse at Toulon, without the intervention of a cow. The effect was so similar in every respect, that they were soon mixed; that is to say, after several generations, and in the hands of innumerable practitioners, it was impossible to distinguish what was vaccine and what was equine. According to Dr. Jenner, the true cow-pox shows itself upon the nipples of the cow, in the form of irregular pustules. At their first appearance they are commonly a palish-blue color, or rather of a color approaching livid, and surrounded by an erysipelatous inflammatory



They frequently degenerate into phagedenic ulcers, the animal appears indisposed, and the secretion of milk is much lessened. The cow is subject to other pustular sores on the nipples, which are of the nature of common inflammation, and possess no specific quality. These are free from all bluish or livid tint, and no erysipelatous inflammation accompanies them. They desiccate quickly, and create no apparent disorder in the animal.

**VACCINATION.**—This is an extremely simple operation, and yet, from want of care on the part of the practitioner, failure to introduce the lymph is of quite frequent occurrence. Vaccination may be performed with the lymph taken from the vaccine vesicle from the fifth to the ninth day, and this is, probably, the most effectual way of transmitting the disease. It is generally effected, however, from the scab, it being macerated with water, and thus introduced; or a minute portion of the scab is inserted under the skin; and being rendered soluble by the fluid of the part, is thus absorbed. In performing vaccination with the lymph or macerated scab, we dip the point of the common lancet in the matter; and having exposed the arm to the insertion of the deltoid, we make a number of small punctures, just sufficient to elevate the epithelium, when an additional quantity of the virus can be applied and pressed into the punctures with the lancet; a piece of adhesive plaster should then be applied to protect the part. In introducing the scab, the lancet should make an incision so as to elevate the epidermis in the form of a flap; the piece being introduced, it can be retained with adhesive plaster.

**PRESERVATION OF VACCINE MATTER.**—Vaccine matter is extremely liable to spontaneous decomposition, and cannot be kept longer than from two to six months under the most favorable circumstances. The lymph may be reserved for several days, by placing it between two pieces of ground glass, fitting each other accurately; or by cutting pointed pieces of quill and dipping the points

in the lymph two or three times, allowing it to become dry each time, and keeping them from the action of the atmosphere; in this case vaccination is performed by making a small puncture with the lancet, and inserting the pointed extremity of the quill, which should remain in the puncture ten or fifteen minutes. The scab is best preserved by taking two flat pieces of white wax, excavating upon their surfaces a sufficient cavity for the reception of the scab, and then applying them closely together; in order to render the protection more effectual, a warm iron may be passed around the edges, and afterward three or four coats of collodion, or even glue, may be applied.

#### CHICKEN-POX.

**SYMPTOMS.**—This is the mildest of the eruptive fevers rarely, if ever, endangering life, and requiring but the simplest treatment. Like the other diseases of this class it is propagated by specific contagion, the period of incubation being from six to nine days. The disease is frequently associated with the epidemic prevalence of small-pox, and hence has been supposed by some to be a modification of that disease. It usually commences with a tolerably well-defined chill; fever succeeds of a more less marked character, and continues with remissions for twenty-four or forty-eight hours before the appearance of the eruption. With its appearance the fever abates, and the little patient feels quite comfortable.

The eruption appears at first as small, red, slightly elevated spots, usually of an oblong figure, with a flat and shiny surface; in a few hours a transparent vesicle is formed upon this, which upon the second day is filled with whitish lymph, and upon the third, has attained its full size, about one-fourth of an inch in diameter, straw-colored. Many of them are ruptured by the fourth day; those which continue become puckered at their margins, and the lymph concreting, a brownish scab is formed.

which is detached the seventh or eighth day. Many times there are successive crops of eruption, so that the disease may be observed in all its stages in the same individual, and the time is consequently prolonged.

This affection is distinguished from small-pox, the only disease with which it could be confounded, by the formation of the vesicle the first day of the eruption, no depression in the center, and their rapid maturity.

**TREATMENT.**—Chicken-pox needs but little treatment. We sponge the little patient thoroughly with the alkaline wash, use the hot foot bath, and cover them warmly in bed. Internally we would give an infusion of some of the milder diaphoretics, as sage, or asclepias, a dose of mild physic to open the bowels, and if the fever is high, tincture of aconite as heretofore recommended. The child should be washed once or twice daily, its diet should be light and farinaceous, and exposure to cold avoided. When the eruption comes out freely, there is usually no occasion for medicine.

### MEASLES.

This is said to be a disease of childhood, but experience teaches us that the adult is just as liable to contract it, and that it is dangerous in proportion to the age of the patient. Like the other eruptive fevers, it is propagated by contagion, and one attack gives immunity from the disease ever afterward. The period of incubation is from seven to fourteen days.

**SYMPTOMS.**—Measles usually commence with a chill, sometimes slight, sometimes amounting to a rigor; to this succeeds catarrhal fever; there is frequent sneezing, with stuffiness of the nose, redness, watering and turgidity of the eyes, sensibility to light, hoarseness, and dry, troublesome cough. The appetite is lost; tongue coated white, and loaded at base; unpleasant taste in the mouth; sometimes nausea and vomiting; and general arrest of the



secretions. The fever is sometimes intense, with severe pain in the head, back and limbs, and great irritability; it is remittent in its character, the exacerbation being in the after part of the day.

Upon the third or fourth day from the first commencement of the disease, the eruption makes its appearance; first, on the face, neck and breast, then on the arms, hands and abdomen, and last on the lower extremities. At this time there is marked turgidity of the countenance, particularly of the eyes; the tip and edges of the tongue are red, its center and base loaded with a dirty fur, and the fauces exhibit reddened patches, resembling the cutaneous eruption. The eruption at first resembles very much the bites of fleas; as they become developed, they are elliptic and irregular in form, slightly elevated above the skin, of a crimson or lively red color which is gradually shaded off into the adjacent skin, and slightly rough to the touch; when pressed by the finger they momentarily lose their color, which returns rapidly upon removing the pressure. The more acute the fever, the greater the eruption, and the more intense the disease.

With the appearance of the eruption, the cough is many times markedly increased, and becomes very troublesome. There is more or less difficulty of breathing, which sometimes depends upon determination to or congestion of the larynx, at others, of the bronchial tubes, and again of the parenchyma of the lungs. During the period of efflorescence, the fever usually continues unabated; indeed, in many cases, all the symptoms become aggravated as the disease progresses.

On the seventh or eighth day from the commencement, the eruption begins to decline, and the febrile symptoms to disappear, with re-establishment of secretion, and furfaceous desquamation of the epidermis.

Measles are severe in proportion to the extent of involvement of the respiratory apparatus, and hence constant care in the examination of these complications is neces-

ted and tumid, bowels constipated, urine is scanty, atly voided, and high-colored, and marked irrita- of the nervous system. Soreness of the throat, difficult deglutition, is complained of from the ad on examination we find the fauces tumid and id the tonsils somewhat swollen. The nares are tly implicated with the angina, and there is conse- stuffing of the nose, with difficult respiration, and ent increased restlessness. The eruption some- makes its appearance during the latter part of the y of fever, but more frequently not until the sec- third day; about the third or fourth day it has l its hight. At the commencement there appears tumefaction of a portion of the surface, which lly assumes a scarlet color, and the minute red are developed. These patches increase in size e greater portion of the surface is involved. Dur- eruption there is an expression of anxiety and g; the child is restless and uneasy, and sleepless- hich resists the usual means of rest, is caused by t and stinging of the surface and soreness of the

throat affection is here the most prominent feature; eness increases, the mucous membrane and subja- sue is engorged and tumid, and the secretion from eous follicles and salivary glands is viscid and

huskiness of the skin continues, there is pain and soreness in the back and loins, the appetite is poor, the tongue dry, whitish and fissured. In the third, dropsy makes its appearance when the child is supposed to be convalescing. Continued disease of the throat, and irritability and enlargement of the cervical lymphatic glands is sometimes observed. Ozæna, with weakness and irritation of the eyes, and chronic disease of the ears, attended by purulent discharge and partial deafness, is not unfrequent.

**TREATMENT.**—If a child has been exposed to the contagion, give it tincture of belladonna, five drops; water, four ounces; a teaspoonful every four hours. Let its diet be light; bathe it with castile soap and water every day, and keep its bowels regular. Even when the disease is prevailing in a severe form, this will frequently render it mild; at least it will be shorn of its dangerous features.

We prefer, however, that our children shall not have scarlet fever, if it is in our power to prevent it, as there are none but fear the malady. Great care should be used by parents visiting houses in which the scarlet fever prevails, not to come in contact with the bed or the child, or any clothing that has been used about it, as the poison can be carried in the clothes for a considerable distance, and will remain in them some time. Even the air of the room, if ventilation is not cared for, becomes so infectious that it will poison the clothing of those remaining in it for some time. If a sense of duty calls you to visit cases of scarlet fever, it would be better for you to change your outside clothing, and wash thoroughly, before seeing your own family.

This must not be considered as a light matter, for we have known many instances in which the fever poison was conveyed, as above named, and in one instance an entire family of five children were lost by neglect of these precautions, the mother carrying the disease home with her. As a prophylactic or preventive of scarlet fever, I place great reliance upon belladonna. It must be used in



and frequently the patient is almost entirely unconscious a few hours after the appearance of the eruption. It runs a very rapid course in most instances, terminating fatally by the third to the sixth day. The eruption becomes dusky and livid, petechiæ appear, the tongue is dry and brown, sordes on the teeth, urine and fæces very offensive, coma or low muttering delirium, and gradually increasing difficulty of respiration.

TREATMENT.—In order to prove successful, the treatment of spotted fever must be prompt and decided. If there is very marked prostration, or evidences of morbid accumulations in the stomach, manifested by a foul tongue, give a thorough emetic of emetic powder. Follow this with the hot blanket pack, making the water strong with mustard; cover the patient warmly in bed, and put bottles of hot water, hot bricks and irons around his body to increase the heat.

Now give internally one ounce of good brandy, and from two to five grains of quinine every two hours until reaction comes on. Continue it in doses just sufficient to keep up the influence, giving the patient a nutritious diet and recovery is almost certain. This is one of the diseases in which a large number of remedies may be applied, but in which but a few do any good, and experience has proven that the above is a very successful treatment.

### DIPHTHERIA.

Much has been written about this, the latest epidemic of our country, and the majority have adopted the opinions I expressed in regard to it in the Eclectic Medical Journal of June, 1861. I hold diphtheria to be a general as well as a local disease, as is proven by the *languagelessness*, *torpor* of the *nervous system*, and *derangement* of the *excretory organs*, which, as a general rule, precede the local disease—all being symptoms of perversion of

od, and almost invariably indicating the establishment of febrile reaction.

**SYMPTOMS.**—Usually diphtheria commences with a well-marked chill, lasting from two to six hours, sometimes it is quite severe. Following this, reaction comes up; sometimes slowly and not well marked, at others quite acute. A very marked reaction in this affection, in a majority of cases, is the development of the fever and its want of intensity for the first two or three days. About the fourth day of the disease, if not modified by medicines, the fever has acquired a marked adynamic character; the pulse is soft, and easily compressed, or small and hard; there is a marked stupor of the nervous system; pungent odor from the surface, with dry and husky skin; tongue dark and covered with brownish fur, and entire loss of appetite.

Subsequently the fever runs the course of a common typhoid fever, unless life is terminated by the action of the throat extending to the respiratory pas-

At the commencement the patient complains of sore throat, difficult deglutition, and some difficulty of breathing. On examination, we find more or less tumefaction of the mucous membrane of the fauces, tonsils, and pharynx, sometimes of a bright red color, at others dusky or livid, and at others blanched. Upon some of these we find the *peculiar exudation* characteristic of the disease, in the shape of patches of an ashen-gray lymph, deposited on the surface of the mucous membrane. As the disease progresses this exudation spreads, forming large patches, and sometimes covering all the mucous membrane visible, extending up to the nares and downward to the larynx. By the fourth or fifth day portions of this exudate are detached and are thrown off, leaving a foul sequestrum; there is also a secretion of muco-pus, also forming a very unpleasant, fœtid discharge in great quantity. Occasionally the affection of the nares is

such that respiration through them ceases; and, again, the muscles of deglutition are so paralyzed, that if the patient attempts to swallow, the ingesta is returned through the nose, giving rise sometimes to imminent danger of suffocation. If the disease extends to the larynx, pseudo-membranous croup is the result, presenting all its characteristic symptoms, and attended with its danger.

TREATMENT.—What are the indications of treatment in such a fever? Plainly they are: first, to reduce the rapidity of the circulation, because we well know that the change in the blood, spoken of above, progresses much slower when the frequency of the pulse is reduced; innervation is improved, and the system placed in such condition that we can get an action from the excretory organs; second, to get secretion from the skin, kidneys, and bowels, as it is through these organs that the morbid material circulating in the blood must be eliminated; third, to increase innervation, for reasons that must be obvious to the reader; fourth, to employ such antiseptic agents as will counteract the septic tendency of the blood; and fifth, to sustain the strength of the patient.

Have the patient first thoroughly bathed in mustard and water; or, if the case is a serious one, use the vapor, or spirit-vapor bath, cover him warmly in bed, and give an infusion of pennyroyal or smart-weed. Wring a flannel cloth out of cold vinegar and apply to the throat, covering it with a dry one, and changing it every half hour. In addition to this, let the patient inhale the vapor of vinegar as directed in No. 86, as often as every half hour or hour.

For the fever we use Aconite, five drops to half a glass of water, and for the sore throat we add ten or fifteen drops of Phytolacca. This may be given every hour. If the patient is dull and stupid, Belladonna is used in alternation with the Aconite and Phytolacca. If the patient is restless, starting in sleep, give Rhus. Indications for the use of antiseptics will be found on page 296.



As a gargle for the throat, use a solution of chlorate of potash, as strong as water will dissolve it; or of hydrochlorate of ammonia, two drachms to four ounces of water. To alternate with these, make a strong decoction of wild indigo, and use as a gargle, and give internally in doses of half a tea-spoonful every three hours.

The inhalation of vinegar I consider one of the most important means, and it should be used thoroughly.

The *Phytolacca* has been found almost a specific in some localities. Add ten drops to four ounces of water, and give a teaspoonful every two hours. When there is evident sepsis of the blood, the *Baptisia* may be used in the same dose. The diet should be plain, as in other fevers, and the same attention must be paid to ventilation and cleanliness.

### RHEUMATISM.

Rheumatism has been variously classified—sometimes as a disease of the blood, at others as involving principally the nervous system, again as arising from deficient secretion, and lastly, from an imperfection in the process of digestion and assimilation. Undoubtedly all of these elements aid in making up the disease, as we have now sufficient evidence that it depends upon some material (lactic acid), generated during digestion in some cases, and in others produced during the breaking down of tissues; that this impairs the quality of the blood, and unfits it for the performance of its proper functions; that its non-removal by the excretory organs is dependent upon their impairment; and lastly, that these associated, produce disordered innervation, and when the material is deposited in the tissues it sets up a peculiar form of inflammation which we term rheumatism.

Four forms of rheumatism may be distinguished, though they run into one another, and sometimes rapidly change from one to another. They are, rheumatic fever, acute inflammatory rheumatism, sub-acute rheumatism and

chronic rheumatism. The causes of rheumatism are, cold from sudden changes of temperature—arrest of secretion from other causes, imperfect digestion, and causes that depress the nervous system.

**SYMPTOMS.**—*Rheumatic fever* usually makes its appearance after exposure to cold, followed by sudden arrest of secretion. It is ushered in with a marked chill or rigor, lasting from one to six hours, during which time the patient not only complains of being cold, but of pain in the back and head, and a dull aching and soreness in all parts of the body. The fever that follows is usually high; the skin is hot, but frequently slightly moist; the pulse hard, and from 100 to 120 beats per minute; the tongue coated white; appetite lost; sometimes nausea and vomiting; bowels constipated, and urine scanty and high-colored. These symptoms usually increase up to the second or third day, when the fever is very intense; after this it continues without change up to the fifth, seventh, or, in some cases, the fourteenth day. There is more or less pain in all parts of the body, and sometimes we find it locating temporarily in the joints of the fingers, wrists, elbows, knees or feet, sometimes continuing very steadily in one or two places, but rapidly changing in others. Usually the swelling in these cases is not very marked, but sometimes the contrary is the case when the local affection resembles the next form of the disease. Occasionally the fever runs so high as to produce delirium, which is followed by prostration, and a low typhoid condition.

*Acute inflammatory rheumatism* usually commences with a chill, which is followed by considerable fever, continuing for three or four days, or sometimes for a week or more. The local disease generally makes its appearance with the fever, the joints being its most frequent seat though other parts are at times affected.

If a joint is the seat of the disease, it becomes swollen, red, hot and painful; the pain being most acute, tearing, burning, gnawing, tensile or lancinating. It is not us



change its position so frequently, but still a metastasis is not uncommon. It is full as stubborn as the more acute malady, and in fact I prefer to treat the more acute forms of the disease.

Rheumatism very frequently shifts its position from one part to another in a short period of time. Thus it will change from the right knee to the left in a single night, or from the knee to the elbow. This is called a *metastasis* of the disease. Rheumatism not unfrequently attacks the heart in this way, being by far the most serious feature of the disease. It is evidenced by the feeling of oppression in the region of the heart, pain of a lancinating, tearing character, faintness, more or less difficulty of breathing, anxious countenance, and a small, rapid pulse—symptoms which can not very readily be misunderstood. It may affect the eye, producing rheumatic ophthalmia, or the structures of the ear, the brain, the membranes of the spinal cord, the sheaths of the nerves, and, to some extent, the stomach and intestinal canal.

#### CHRONIC RHEUMATISM.

It most frequently affects the articulations, they being swollen, tender and painful; one or more may be affected at the same time, usually not more than two, and the amount of swelling, discoloration and pain, varies in different cases; sometimes the tenderness and pain are exquisite, at others it is not very marked; the articulation is in some cases entirely useless, motion or pressure giving rise to severe suffering; at others, though lame, it may still be used. In some cases it takes the form of synovial dropsy, it being very evident that the enlargement is almost entirely dependent upon effusion into the joint. At others the enlargement seems to be dependent upon material within the synovial membrane, but it is not nearly so mobile as before. In other cases there is marked enlargement of the articular extremities, or a dull, heavy,



almost as good a liniment as I have ever used. Bathe the part freely with it every two or three hours, and keep it wrapped up in raw cotton. The liniments named under the head of medicines Nos. 87, 88 and 89, may be used for the same purpose.

In sub-acute and chronic rheumatism, I would recommend the following: Take iodide of potassium, extract of conium, equal parts, one drachm; tincture of black cohosh, one ounce; simple syrup, three ounces; and give a teaspoonful every three hours. In some cases a simple solution of acetate of potash will be all the internal medicine necessary.

Especial attention should be paid to the skin in chronic rheumatism, the patient having his daily bath, with brisk friction, and having the affected parts well rubbed with some of the preparations above named. If the *spice bush* grows in your section of country, gather the berries, press the oil from them, and use it; it is one of the best remedies. But if you can get the advice of a good physician, it will generally be found the cheapest and best in the end.

### SCROFULA.

Scrofula, or king's evil, is one of the most common diseases met with, and may be regarded as an evidence of feeble vitality. It is one of the most serious of diseases, though it does not always prove fatal. The causes that tend to produce scrofula are all such as tend to depress vital power, and impair vital resistance. Thus Magendie found that this state could be produced by confining animals in the dark, and in ill-ventilated places, and by feeding them innutritious food.

Scrofula is said to be hereditary; and so it is in this, that the child inherits a defective vitality, which manifests itself in imperfect elaboration of the blood, and enfeebled vitality of tissues and organs. Such persons may live for years without any manifestation of the disease,

sc there has been no cause acting to further  
ty, or determine scrofulous deposit. Finally,  
m arrest of secretion or other cause, the sys-  
sed, and an irritation of some part being set  
ne time, we have full manifestation of the

correctly stated the pathology of the disease,  
es may be adopted to remove this predispo-  
ie contend that it can not be removed ; but  
dence sufficient to show that it can be en-  
ted. To accomplish this we resort princi-  
enic measures, such as will stimulate healthy  
retion, and innervation. Remove the child  
ry, let it have plenty of out-door exercise,  
anying light and sunshine—give it nutritious  
chew condiments, pastry, and sweet-meats,  
re constitution of the child will undergo a

manifests itself in various ways; very fre-  
leposit commences in the lymphatic glands;  
the viscera, as of the lungs, liver, brain, etc.;  
bones, in the muscles, in the skin—in fact,  
ues of the body. The determining cause of  
undoubtedly an irritation of the part, caus-  
ation of blood.

—The symptoms of a scrofulous constitution  
marked, though it has been frequently de-  
it were. It is true, that it occurs most fre-  
ildren of fair skin, blue eyes, light hair, and  
res; but it is so often met with in persons  
, hair and eyes, irregular features, and rough  
that it is impossible to say, by a child's ap-  
ether it is scrofulous or not. There is, how-  
many cases, such manifest imperfection in  
circulation, and nutrition, and feeble vitality,  
enabled to recognize the scrofulous constitu-  
y, the previous history of the family will

throw some light on the matter; but, as Prof. Powell has well demonstrated, the scrofulous constitution may be, and is, often developed in children by incompatibility of the parents.

Scrofula manifests itself when, from any cause, the vitality of the system is so depressed that the blood is not properly elaborated, or the detritus of the system is not removed, either by an imperfection in the process of retrograde metamorphosis, or by failure of the excretory organs. The situation is determined, in all cases, by the existence of a local irritation or inflammation in or adjacent to the parts affected. Thus, we observe scrofulous deposit, and disease of the cervical lymphatic glands, from disease or irritation of the mouth or throat; involvement of the axillary glands, from disease of the arm or breast; of the inguinal glands, from disease of the lower extremity, or genital organs; of the mesenteric glands, from disease of the bowels; of the lungs, from irritation produced by cold; and in the muscles and bones from the same causes. It might be divided into two forms, as it occurs in the lymphatic glands, or as a deposit in the form of tubercles in the structure of a part; but no practical benefit would grow out of such distinction. As we have in other places described scrofulous or tubercular affections of the principal organs, we will confine ourselves here to a description of it as it affects the lymphatic glands.

In many cases the irritation, giving rise to the development of scrofula, is very manifest, and occasionally demands treatment; but in others it is very slight. The superficial lymphatic glands are then observed to become slightly enlarged and hard, so as to be very perceptible when the finger is passed over them. This occurs frequently, in scrofulous children, in the superficial cervical glands, without further development, and is considered by many as the best indication of a scrofulous constitution. When the disease is fully commenced, one or more



lands continue to enlarge, a low form of inflammation sets in, and deposit takes place in the adjacent parts which become swollen and hard. Now the inflammation becomes more or less acute, the part is red, painful, hot, tender on pressure, and the swelling increases rapidly. Continuing in this way for a longer or shorter time, suppuration commences, and the deposit is gradually changed into pus, which in time makes its way to the surface, and is discharged. This occupies a variable period of time, sometimes passing through all its stages in eight or ten days, and at others occupies several weeks. In some cases the inflammation is acute and the pain severe, but in others it progresses without redness, heat, or pain.

Pus forms slowly in many cases, and there is but a slight tendency to its discharge; and in others weeks pass before the part still continuing hard: and, at last, when patience is nearly exhausted, suppuration occurs rapidly. Sometimes the pus is well formed and healthy, and when discharged, the part heals readily; but at other times it is watery, of a greenish-brown color, or clear, and contains more or less flocculent material mixed with it. Occasionally the abscess exhibits no tendency to point, but it burrows in the tissues for a long time, unless it is opened. In other cases, when the pus is discharged, the abscess does not heal, but continues to discharge a thin, flocculent pus; and if we examine it, we will find the walls ragged, and often a chain of lymphatic glands stretched out, and lying at the bottom.

The constitutional disturbance varies greatly. Sometimes there is quite brisk febrile action when inflammation first comes up, with loss of appetite, arrest of secretion, and much prostration. In these cases, suppuration is frequently marked with a chill or rigor, and occasionally attended with hectic fever and night sweats. In other cases, there is no constitutional disturbance further than a loss of strength, and some derangement of secretion.

lowed by the lotion named. In some cases we obtain good results from the use of the Mayer's ointment or the black salve; finely pulverized Indian turnip, made into a poultice, is an excellent application. If there is much heat and redness, we may use fomentations of stramonium leaves, or a poultice of a decoction of dog-wood and wheat-bran. If it is seen that resolution cannot be effected, we will employ poultices to facilitate suppuration, and if pus has formed to any extent, instead of permitting it to burrow, we will immediately open the abscess. If now it is dressed with a strong solution of borax, or of equal parts of borax and salicylic acid, it will heal kindly without an unpleasant cicatrix or other disagreeable consequence. If it does not discharge well, and looks ragged, it will be best to use a solution of sesquicarbonate of potassa until suppuration becomes free. And in those cases in which the healing process is slow and the discharge thin and watery, it may also be employed with advantage.

### DROPSY.

Dropsy is an effusion of water into the tissues of the body, and is most usually symptomatic of some other affection. In its mildest form it is called *œdema*, and is most usually seen in the lower extremities, the feet and legs being swollen, of a waxy pale color, and pitting on pressure. Dropsy of the *cellular tissues* connecting the skin to other parts, and these one to another, is called *anasarca*. And the third form of dropsy is that in which the fluid is effused into the serous cavities—the abdomen, the chest, the brain, etc.

Dropsy may be *active* or *passive*, in the first case being attended with more or less fever, in the second without fever, the tissues being generally relaxed. The first form of dropsy is most frequently met with after scarlet fever, or during some disease of the kidneys. The second most usually occurs as the result of some local or general debility, and especially of some change in the condition



the blood. Any cause that depresses the vitality of the system, lessens the plasticity of the blood, and causes relaxation of the tissues, favors passive dropsy.

It may result from disease of the kidneys, they failing to remove the excess of water from the body, or as in Bright's disease, removing a constituent upon which the free circulation of the blood depends. It may arise from disease of the heart, some structural lesion preventing the free circulation of the blood, and proving an impediment to its return from the veins. Dropsy not unfrequently has its origin in disease of the stomach, liver and spleen, though we can not see any connection, other than the effect that prolonged disease would have upon the blood.

Dropsy is very frequently curable, and it often spontaneously disappears, if the cause producing it is removed. If, however, it arises from heart disease, or structural disease of the kidneys, or any of the abdominal organs, it will likely prove fatal.

TREATMENT.—It is not probable, as it would not be wise, for any person to undertake his own treatment if suffering from dropsy, unless it was but temporary. The first thing to be done is to determine the cause, if this is possible, and remove it. Thus, if the kidneys are at fault, the remedies would be directed to them, or if the stomach and other viscera, they should receive attention.

In all cases we obtain much advantage from the use of a tonic and stimulating bath, and from the internal use of tonics and nutritious food, and moderate exercise in the open air. To remove the accumulations of water, remedies are used that carry it off by way of the bowels and kidneys. Thus, if there was nothing to prevent, we might give cream of tartar, one drachm, and jalap, ten to twenty grains, two or three times a day, to produce large watery operations from the bowels. As soon as these are obtained, use the more active diuretics, as an infusion of dwarf elder, or the root of the common elder. The Apocynum is the specific remedy, in doses of one to three drops every three hours.



*DISEASES OF THE RESPIRATORY ORGANS.*

The organs of respiration, as we have already seen, consist of the larynx, trachea, bronchial tubes, parenchyma of the lungs, and the serous membrane that envelops them, the pleura. Each of these may be the seat of disease either acute or chronic, or two or more parts may be involved at the same time. As the function of respiration is one of the most important to life, so are diseases of these parts serious, as they interfere with this function.

We determine disease of these organs by the general symptoms which they give rise to, and by a physical examination of the thorax and organs contained within it. The general symptoms arise from change of function produced by disease, and the influence it exerts upon the system. They are never constant, and in some diseases never entirely sufficient to determine the character and exact seat of the malady. A physical examination determines palpable evidence of disease, in alterations of shape, movement, and sound, and is always positive in its nature.

**PHYSICAL EXAMINATION.**—The well educated physician determines the character and situation of diseases of the chest, by its form, movement, resonance, and the sounds produced by the action of the organs within. As a general rule, the healthy thorax presents a marked uniformity in the contour of each side, the outlines being rounded and smooth. The slightest variation in shape is recognized by the educated eye, and is used as evidence in determining the trouble. The extent and freeness of the respiratory movement, determines, to some degree, the capability of the lungs to properly perform their function. Variations from normal action indicate disease, and become important when associated with other signs and symptoms.

**COUGH.**—Coughing arises from an irritation of the sensitive nerves distributed to the various parts of the respiratory apparatus. The purpose fulfilled by the act

of the air tubes, as we see in bronchitis, pneumonia, and laryngitis. It is purulent as seen in the third stage of pneumonia and phthisis pulmonalis; or a muco-pus, as in some cases of bronchitis. It sometimes contains small roundish masses, either tubercles or desiccated mucus—the difference being determined by the cheesy consistence of the first, and the tenacity of the second when rubbed down with water. Blood, either fresh, bright, and fluid, or dark, clotted, or broken down, is frequently a constituent.

**PERCUSSION.**—Percussion, popularly known as “sound-ing the lungs,” is employed to determine the extent to which air enters the lungs. A vessel or body, containing air, gives a certain degree of resonance when struck—depending upon the elasticity of its walls, and the amount of air contained within it. A drum is very resonant, because it possesses these in the highest degree; a barrel is less resonant, because its walls are not so elastic. Now, if we fill the drum with sponge, the resonance will be greatly diminished, but it will still exist; but if now we fill it with water, the sound will be flat and dull, and without resonance. This represents, to some extent, the thorax; its walls are elastic, and usually the lungs contain a large quantity of air, and the resonance is very marked when the walls of the chest are struck; but in proportion as the lungs become solid from disease, the sound becomes dull, until, at last, it is flat like striking on the fleshy part of the thigh.

**AUSCULTATION.**—In health, the passage of the air in and out of the lungs during respiration, gives rise to two very marked sounds. One produced in the bronchial tubes is called the bronchial sound; the other, arising in the air cells, is called the respiratory murmur. As these sounds will vary according to the condition of the part in which they are produced, so this variation tells us the condition of the organ. Not only so, but adventitious or abnormal sounds are developed, and are indications of certain changes of structure.



To the physician who has thoroughly studied this subject, disease of the lungs is as easily determined as if he could be permitted to remove and inspect the organs. Not unfrequently this knowledge becomes a means of saving life, by determining a diseased condition in its early stage, whilst it may be arrested by medicine and hygienic measures.

**A BAD COLD.**—A cold is the most frequent of complaints—in fact, there is no one but what has one or more attacks, light or severe, during the year. What is a cold, and how is it taken? Cold is a partial arrest of the secretions, and a sub-inflammatory condition of the internal lining of the body—the mucous membranes. The causes of colds are all such as tend to arrest secretion from the skin, and drive the blood to internal organs. Thus, a person who has temporarily exhausted his vitality by active exercise, sits down on the damp ground, or in a draught, or takes off part of his clothes, and gets cool suddenly, and the next day finds that he has “caught cold.” Wet feet is a frequent cause of cold, as is also damp or insufficient clothing, change from thick to thin clothes, and sudden changes of temperature.

The common symptoms of cold are usually a stopping up of the head, a dull, heavy headache, pains in various parts of the body, dry skin, constipated bowels, and some loss of appetite. At times it affects the lower air passages to a greater extent, and the person feels an oppression and weight about the chest, slight difficulty of respiration, and has more or less cough. In the first case the more marked symptoms disappear in two or three days, leaving nothing but a disagreeable running from the nose, a hawking of mucus, with sometimes slight headache. In the second, the cough continues for some days or weeks, with expectoration of a whitish-yellow mucus.

**TREATMENT.**—In many cases, at the very commencement, all that will be necessary is to have the feet thoroughly bathed in the evening in hot mustard water, drink



freely of warm ginger, composition or pennyroyal tea, and cover up warmly in bed. If the bowels are costive, a couple of podophyllin pills may be taken. If the cold is more severe, use the spirit-vapor bath, or blanket pack, or wet sheet pack, with the diaphoretics named, and follow the succeeding day with small doses of tincture of aconite, or a solution of acetate of potash. When the difficulty of breathing and oppression of the chest is very marked, I would advise the addition of ipecac or lobelia to the sedative.

### QUINSY.

If one will open the mouth and look back, he will see on each side of the throat a prominent body, which is called the tonsil. These are subject to inflammation, and when there is but a single attack it is called tonsillitis. When repeated from time to time it is called quinsy. In such case, if examined between the attacks, the tonsil will be found enlarged, and the voice will be slightly guttural.

An attack of quinsy is announced by a feeling of fullness in the throat, and difficulty in swallowing and breathing. This increases until the sufferer finds it almost impossible to swallow, or even to breathe, except in a sitting position leaning slightly forward. In many cases it goes on to suppuration, the attack lasting from four to ten days. Looking into the throat, the tonsils will be found much swollen and the adjacent parts red.

TREATMENT.—Sometimes the disease can be aborted by taking saltpetre—a piece about the size of a pea being taken every three hours. In place of this, aconite can be used—five drops in half a glass of water; dose, a teaspoonful every two hours. If the patient is not better in forty-eight hours it will go on to suppuration. Nothing will be better to relieve the pain and facilitate the process than the application of hot water to the side of the head, and the inhalation of the vapor of hot water.

## CATARRH.

Catarrh is said to be the great American disease, as we are not only a nation of tobacco chewers and spitters, but also hawkers and nose-blowers. Probably there are ten cases of this disease in the United States to one in Europe.

It probably grows from repeated attacks of cold, until at last the person finds that there is a continual discharge from the nose, yellowish in color, which after a time becomes fetid. The discharge may be from the upper part of the throat and the back part of the nose, which is removed by hawking and spitting. The disease has an inclination to extend downward, and may involve the larynx and bronchial tubes. Patient complains of fullness at base of brain, and sometimes of dizziness. And if there is sharp pain, it is usually felt in the region of the nasal bones or the forehead. The severity of the disease is determined by the unpleasant character of the discharge and the impairment of the general health.

**TREATMENT.**—Where the secretion is profuse, and clogs up the nasal passages, the nasal douche has been found an excellent means of using remedies. At first salt water (a teaspoonful of salt to a quart of water) can be passed through the nose to wash it out. If the patient will get a piece of rubber tubing six feet long, with a bucket or quart bottle, he may improvise a good apparatus. Put the fluid in the container, and place it about three feet above the head. Drop one end of the tube in the bucket, and put the other end in the mouth; suck it so as to make a syphon. Now open the mouth and hold it open, putting this end in the nostril. The fluid will run through the nose and out at the other nostril, washing all unpleasant material away in the current. Following this, a teaspoonful of borax or chlorate of potash to the quart of water may be used in the same manner.

In the larger number of cases, the best apparatus for the application of medicine is the spray apparatus. A variety of these can be found in drug stores. With this a saturated solution of borax or chlorate of potash, or borax and salicylic acid, may be used. Among the vegetable remedies, Pond's Extract of Hamamelis, or Lloyd's Fluid Hydrastis, will probably give the best results.

For internal use I usually prescribe the sulphide of calcium, second decimal trituration; dose about the size of a pea three times a day. The homœopathic hepar sulphur is a good form to use the remedy.

### CROUP.

Croup is a disease of the larynx, or upper part of the air-passages, and is one of the most common diseases of children. Though generally occurring in childhood, we sometimes see it in the adult, and occasionally even in old age. It is divided into three forms—the *mucous*, *pseudo-membranous* and *spasmodic*. All forms of croup excite fear and dread in the minds of parents, and while some are among the severest diseases we meet with, others are attended with but little danger. Spasmodic croup is the mildest form, is of tolerably frequent occurrence, and rarely attended with danger. Mucous croup is the most frequent variety, and though a severe disease, it is generally managed with ease, if taken in time, and treated properly. Pseudo-membranous croup is a fearful affection, and has been attended with a greater mortality than almost any other disease.

SYMPTOMS OF MUCOUS CROUP.—This form of the disease is frequently preceded by well marked symptoms of coryza, and sometimes a stuffing up of the breast, slight difficulty of respiration, a cough, and a general "bad cold." The attack of croup generally comes on at night, the little patient being restless and uneasy, and the respiration rough and whistling. Soon it awakes with a



hoarse croupy cough and sensation of choking, appears frightened, breathes laboriously, and continues the cough until a portion of mucus is raised, when the spasm passes off, and it breathes freer. In a short time respiration becomes permanently difficult, and there is a peculiar whistling and gurgling as the air passes through the larynx.

The cough is hoarse, shrill, gurgling, with a marked ringing metallic sound. The voice is changed, becoming shrill and piping, and at last sinks to a whisper, even the cry being whispering at first, terminating in a shrill piping sound. If the child sleeps, mucus accumulates in the throat, the breathing becomes more and more difficult, and at last the child awakes with symptoms of imminent asphyxia. At first the skin is dry, its temperature slightly increased, and the pulse full and hard; but as the respiration becomes more difficult, a cold, clammy perspiration breaks out, the extremities become cold, and the pulse frequent and feeble. The difficulty of breathing, and other symptoms continuing to increase, the disease terminates fatally from twelve to forty-eight hours from its commencement.

**PSEUDO-MEMBRANOUS CROUP.**—This form of the disease comes on slowly and insidiously; the first symptoms being a dry whistling inspiration, a slight metallic cough, and some alteration of the voice. These symptoms continue to increase for two, three, or four days, or more, before the final paroxysm, the child meanwhile appearing tolerably well, with the exception of the symptoms named. The day previous to the final attack, these symptoms frequently become so marked as to excite notice, and mild measures are used for its relief.

Finally, the respiration becomes very laborious, both inspiration and expiration being hard and whistling. The cough is hoarse, dry, ringing and metallic. The voice sinks to a whisper, is shrill and stridulous. The ear applied to the larynx detects at once the evidence of

stricture, and the want of secretion. As the disease progresses, the child is attacked by fits of suffocative cough, the lips become livid, the countenance congested, the extremities cold and clammy, coma makes its appearance, and the child dies.

**SPASMODIC CROUP.**—This is the most frequent form of the disease, and is dependent, doubtless, on slight inflammation, giving rise to spasmodic contraction; cold and sudden atmospheric changes being the most frequent causes. Like mucous croup, it usually comes on at night, though the breathing may have been difficult, with a croupy cough and voice, through the preceding day. The child is usually awakened by difficulty of breathing, a hoarse, ringing, metallic cough, and a shrill whispering voice or cry. In some cases there is slight secretion, but in others none at all. The difficulty of respiration increases for a few minutes, or in some cases for an hour or two, then gradually passes off; sometimes there are marked exacerbations and remissions occurring every few minutes. There is but little derangement of the secretions or circulation, and it is not difficult to detect the spasmodic character of the affection.

**TREATMENT.**—In any form of croup, the family (or even the physician) will find a simple practice the safest. Prepare aconite for the child by adding two drops to half a glass of water, and give a teaspoonful every half hour. As a local application, rub the throat with the stillingia liniment (83), and apply a small piece of flannel wetted with it. This remedy itself is a very safe and efficient one in croup, and should be kept in every house where children are subject to it. In addition to its local application, the remedy may be given internally, half to one drop on a lump of sugar every half hour or hour.

Another useful local application is a plaster made by sprinkling snuff on a cloth spread with lard, or, in quite

children, the emetic powder used in the same way. Irritation to the spine, with the hot mustard, and the general sponge bath, if the skin is dry and constricted, are very useful. Inhalations of vinegar, or of vinegar, tend to relax the parts, and thus afford temporary relief; and by rendering the mucus less viscid they aid the permanent cure.

In the *pseudo-membranous* variety, the indications are to relax the parts, and thus prolong the patient's life, to give a longer time for the action of medicine to penetrate beneath the false membrane, and break its plasticity; and having thus caused its partial removal, to cause its removal by an act of emesis. At the first indication, we direct the continuous application of flannel cloths, wrung out of hot water, to the chest, the use of the *stillingia* liniment; or, if the case is severe, the oil of lobelia applied freely. Even in this case we prefer to trust the small dose of aconite, rather than to proceed with an emetic and other harsh means. In severe cases *phytolacca* may be added. Cups to the throat are very serviceable in many cases; but rubefacients should not be used. The hot mustard foot-bath and irritation to the spine are also useful.

Usually, I employ acetous tinctures of lobelia and *strychnia*, each one fluid ounce; molasses, one ounce; of potash, finely powdered, one drachm; mix, and give to a child, two or three years old, a teaspoonful every two or ten minutes, until nausea is induced—then discontinue. If there is much constriction of the skin and depression of the pulse, I add the *veratrum* in suitable doses. The remedy above named should be given in any fluid either before or after it, as we desire its influence as it is swallowed, as much as its influence when taken into the stomach; in no case should it be allowed to produce vomiting until we have evidence, in the gurgling and flapping sound of the tongue, that the false membrane is becoming loosened.



If the tendency to vomiting should be strong, I direct the sinapism to the stomach, and an infusion of peach bark with the nauseant, as an anti-emetic. A variable length of time will elapse before the pseudo-membrane will be loosened sufficiently to be discharged—sometimes five or six hours; in one case that I treated, sixty hours. When, from the sound, we are satisfied the detachment is sufficient to permit the evacuation of all or part, we induce speedy emesis, usually with an infusion of our common emetic powder, as preferable to the agents we have been using. The more thorough and effective the emetic, the greater the chance of safety, though in some cases we find the false membrane thrown up in shreds by coughing, without any indication for an emetic at all. Usually the lobelia and sanguinaria, used as above directed, and continued for so long a time, act upon the bowels, sometimes giving rise to great irritation; in such case, agents to obviate this must be employed. The treatment is brief, but nothing can be added to it in our present knowledge of the *materia medica*, and there are no agents we can substitute for those named, and no preparations of the agents but the acetous tinctures.

*Spasmodic croup* is easily treated; very frequently the compound tincture of oils of lobelia and stillingia, heretofore named, freely applied externally, with the internal administration of a drop, every half hour or hour, on a lump of sugar, answers our purpose; or the warm onion poultice to the throat, with the internal use of almost any nauseant, succeeds.

The treatment first mentioned under the head of mucous croup, is very efficient; in fact, the entire treatment named there may be adopted in this case. Generally, however, the milder the measures for relief, the better it will be for the patient, as the stronger agents so change the action of the bronchial mucous membrane as to prove a source of difficulty.

**CHRONIC LARYNGITIS.**

**SYMPTOMS.**—Chronic laryngitis usually comes on slowly and insidiously, the patient being hardly aware that he is suffering from a serious disease, until it is confirmed. The first symptoms are soreness of the throat when speaking, with constriction, slight alteration of the voice, cough, and expectoration, which comes on after slight exposure, or over-exertion of the larynx. These symptoms are ameliorated in a short time, and the patient thinks it but a slight cold, from which he is recovering. As time advances, however, the attacks become more frequent, last longer, and do not so nearly disappear. The disease being fully established, there is a constant uneasy sensation in the region of the larynx, the voice is seriously altered, and there is a constantly annoying cough, with expectoration. The expectoration is at first scanty and mucous; but, as the disease advances, it is muco-puriform, sanious, concreted into lumps, or consists of almost pure pus. Hemorrhage occurs in the latter stages, sometimes in very large quantity. If the throat is examined, we notice the evidence of chronic inflammation of the fauces, pharynx, and epiglottis, and we reasonably suppose that the mucous membrane of the larynx corresponds in appearance; with the laryngoscope we are enabled to view the internal surface of the larynx, and determine its condition tolerably accurately.

The impairment of the general health is usually in direct ratio to the severity of the local affection. At the commencement, the patient complains simply of debility, with some failure of the digestive organs, and sometimes torpor of the secretions. When it has progressed for some months, he is unable to attend to business; there is loss of flesh and strength, marked impairment of the digestive functions and of excretion. Now, frequently the system becomes so depressed that tubercles are deposited in the lungs, the symptoms of phthisis are developed, and the disease runs a rapid course to a fatal termination.



**TREATMENT.**—Cover up warmly in bed; apply stillingia liniment and hot water to the throat, and give aconite in small doses frequently repeated. Now get the advice of a good physician.

### ACUTE BRONCHITIS.

Bronchitis is a disease of tolerably frequent occurrence, and, as its name implies, is an inflammation of the bronchial tubes. We may divide it into two varieties, catarrhal and sthenic bronchitis, the first being a mild and the other a very severe disease.

**SYMPTOMS.**—*Catarrhal bronchitis* commences as a common cold, the patient feels dull and languid, frequent chilly sensations alternated with flushes of heat, increased secretion from the nose, dry skin, constipation of the bowels and headache. In a short time the patient complains of a sense of dryness and roughness, and makes frequent attempts to clear the throat. A hard, dry cough, more or less hoarse, is soon developed, and seems to be rendered much worse by tickling in the fauces. The voice is frequently hoarse, there is a sense of tightness and constriction of the thorax, with slight pain and soreness in coughing or drawing a long breath. In some cases the febrile reaction is quite marked for the first two or three days. By the second or third day the patient commences to expectorate a thin glairy fluid, which, rising to the glottis, greatly increases the desire to cough. By the fourth or fifth day the secretion has increased in quantity, is yellowish and opaque, and is raised with greater freedom. The constitutional symptoms now disappear, though the cough may continue for several days, and the patient soon recovers.

*Sthenic bronchitis* is frequently preceded for a short time by coryza, oppression of the chest, languor, listlessness, arrest of the secretions, etc. In a short time marked chills or rigors are noticed, sometimes the chilly sensation will continue for twelve or twenty-four hours, not very



vere, but annoying to the patient. The chill is followed by fever, generally remittent in character, being the highest in the afternoon and evening; the skin is hot, dry and dusky, the pulse frequent and hard, the mouth dry, tongue coated white and contracted, bowels constipated, and urine scanty and high colored. With the first appearance of a febrile reaction, a hard, dry and deep cough makes its appearance, the respiration becomes laborious, and there is dyspnoea and oppression of the chest. Generally within the first twenty-four hours a dull pain is experienced on coughing.

Expectoration commences from the third to the sixth day. At first it is a clear, transparent mucosity, secreted in small quantity, and raised with difficulty. In a day or two it is a tough, glairy mucus, resembling white of egg, and in most cases streaked with blood. As a general rule, it may be stated, that the greater its tenacity, the more intense the inflammation of the mucous membrane secreting it. This mucus is expectorated with difficulty; it accumulates, gives rise to cough, which is much protracted, lasting sometimes for minutes before the adhesive mucus gives way. The physical signs have not yet changed materially, though the sibilant rhoncus has become modified, and as mucus accumulates previous to coughing, is changed to a mucous sound. The febrile symptoms are still intense, and the difficulty of respiration and oppression of the chest as great.

From the fifth to the eighth day a marked change is noticed in the mucus expectorated; it now contains opaque, yellowish, greenish or white masses, suspended in the glairy mucus. These increase in quantity as the disease progresses, until the entire expectoration possesses these properties. With this change in the expectoration the fever gradually abates, the secretions are restored, the appetite returns, the patient rests at night, the cough not being so troublesome, and the breathing becomes easy. The amendment continuing, by the eighth to the twelfth

day the patient is convalescent. This may be said to be the natural course of the disease; but these changes can be very much accelerated by medicines, and the disease made to run a much shorter course.

TREATMENT.—The treatment of catarrhal bronchitis will be nearly the same as that laid down for cold, further than it will be well to apply hot fomentations to the chest, and give the aconite and veratrum. Even the severer cases will progress favorably under very simple medication. If there is much pain and soreness in the chest, we may use aconite and bryonia, five drops of each to half a glass of water, a teaspoonful every hour. In some cases, especially when secretion becomes free, the ipecac may be used in place of the bryonia. To relieve the irritation and cough, if very severe, nothing is better than an inhalation of the vapor of water, or water and vinegar.

Much benefit is obtained from the use of the hot fomentation, or a poultice of bran or cornmeal applied to the chest. In some cases we use dry cups. We also use the alkaline bath sufficiently often to keep down excessive heat of the skin. When expectoration commences, or even at first, we may use the compound sirup of lobelia, No. 82, to control the cough, and facilitate expectoration. If expectoration becomes abundant, use the stimulant expectorant, No. 85.

#### CHRONIC BRONCHITIS.

Chronic inflammation of the bronchial mucous membrane is of frequent occurrence, and may result from many causes. A badly treated acute bronchitis may terminate in the chronic form, or an inflammation of the lungs may set up a subacute bronchitis which will continue after the original disease has subsided. The most frequent cause is doubtless the neglect of catarrhal bronchitis; the acute symptoms ceasing, the patient pays but



little attention to the cough, and the persistent chronic disease is the result. In many cases the progress of the disease is slow and insidious, in others quite rapid. In the first case the patient is troubled with cough during the winter and spring months whenever exposed to the cold, but which passes away with the return of warm weather. The next winter he seems to catch cold easier, and the cough is more persistent, and does not entirely disappear during the summer. With the return of cold, changeable weather, all the symptoms are aggravated, and the general health suffers, the disease being permanent. Thus one, two, or more years may be required for its development; in other cases it follows "the cold in the chest," or the acute attack.

**Symptoms.**—In chronic bronchitis, we have both local and general symptoms. Cough seems to be at once the most characteristic as well as troublesome feature. The cough is persistent and annoying, generally of a deep bronchial character, but sometimes short and hacking, at others, asthmatic. It is dry or moist, depending upon the amount of secretion from the bronchial mucous membrane. Sometimes it is attended by a dull, heavy, aching pain, or sense of soreness on coughing. At others the chest is entirely free from pain.

Expectoration varies greatly as regards quantity and appearance. Sometimes it is very scanty, the cough being dry and harsh; at others there does not seem to be any great accumulation in the bronchial tubes, though expectoration in moderate quantity attends each paroxysm of cough; lastly, we observe cases in which expectoration is profuse, the patient being obliged to cough to remove the accumulations from the chest. We thus divide chronic bronchitis into two marked varieties: *bronchitis with deficient secretion*, and *bronchitis with profuse secretion*. The material expectorated varies from a thin, transparent, adhesive mucus, to a yellowish or greenish opaque mucus or muco-pus,



**TREATMENT.**—The treatment of chronic bronchitis must be properly divided into general and local, and as much importance attaches to the one as the other. Of course the general treatment will have to be varied according to the complications; but the following points deserve especial attention: The appetite and digestion being frequently impaired, it is necessary to administer such mild tonics, to improve the tone of the digestive apparatus, and at the same time improve the quality of the blood. Frequently these can be selected with reference to their action, either direct or indirect, on the pulmonary mucous membrane. The bitter tonics, the mineral acids, hypophosphites and nux vomica, are found important curative means. The excretions must be restored, and to accomplish this the milder agents are of greatest utility. The bowels being constipated, mild laxatives are indicated. The secretion of the kidneys affected, those agents termed alteratives that are known to facilitate this secretion, are the best adapted. The skin demands our especial attention, from the intimate sympathy existing between this membrane and the mucous lining of the body. If it is dry and harsh, the use of the alkaline sponge-bath, with brisk friction, seems to be of much benefit; if there is imperfect capillary circulation, with coldness of the extremities, the capsicum bath is important; and if there is much relaxation, the addition of an infusion of some bitter tonic, or astringent. Iron is useful in cases of anæmia or imperfect nutrition, the hypophosphites, sulphur, and quinia, when there is deficient innervation, and nux vomica or other permanent stimulant when the patient exhibits an apathy not accounted for by the symptoms of the disease.

Those cases in which the expectoration is scanty, or in which the cough is dry and harsh, are benefited usually by the employment of nauseant expectorants, to increase secretion. The lobelia, sanguinaria, ipecacuanha, &c. can be employed for this purpose with advantage; and it is generally a good plan to combine with them a demulcent.

ent, to relieve the dryness and irritation of the throat and fauces, and a narcotic to allay the morbid irritation of the nervous system.

In many cases the compound tincture of oils of lobelia and stillingia, in drop doses every three hours, is an effectual remedy for the cough. In other cases I would recommend compound syrup of lobelia, No. 82, or the compound syrup of elecampane, No. 84. Sometimes inhalations of various kinds will prove advantageous; but they will have to be used under the care of a physician.

### INFLAMMATION OF THE LUNGS.

Inflammation of the parenchyma of the lungs is a disease of frequent occurrence; and involving, as it does, so important a structure, its effect upon the general system is proportionately severe. The extent of the inflammation varies in different cases; sometimes but a portion of one lung is involved; at others, one entire lung; and, lastly, both lungs may be involved in the disease. If the inflammation is confined to one lung, it is termed *single*; if it affects both, *double pneumonia*—the last being a very severe disease.

Pneumonia is, in a large majority of cases, produced by cold; in the exceptional cases, by irritant materials inhaled, or as the result of injury. The action of cold upon the system, and its influence in producing disease, has been already considered, and it is only necessary to notice here that previous exhaustion, and sudden arrest of the cutaneous secretion, are almost invariably noticed.

**SYMPTOMS.**—Generally the disease is preceded for a day or two by premonitory symptoms, as—oppression of the chest, quickness and shortness of breathing, quick, short cough, dullness and languor, occasional sighing, and more or less chilly sensations and coldness of the extremities. The inflammation is usually ushered in by marked chills or rigors, continuing from one to two or more hours.



There is now an increase of the symptoms before named, general uneasiness, and a dry and suppressed cough. With the disappearance of the chill, febrile reaction comes up, the pulse is frequent and hard, the skin dry and hot, appetite impaired, tongue coated white, bowels constipated, and urine scanty. Respiration is more short, frequent, anxious and difficult, and attended with unusual expansion and elevation of the chest; there is a frequent short cough, and increased warmth and moisture of the expired air. Upon auscultation we find that the respiratory murmur is replaced by the *crepitant* rhoncus, there is no bronchial sound, and no dullness on percussion. During this period the cough has been dry; or, if any expectoration, it is thin, transparent, or frothy.

By the third or fourth day, we find that the patient is unable to take a deep inspiration, respiration being performed principally by the diaphragm and abdominal muscles. He lies, in preference, upon the affected side, or, in double pneumonia, upon the back. There is a constant feeling of uneasiness rather than pain in the chest, with anxiety, sense of constriction, weight and fullness, and of internal heat. In some cases there is constant restlessness, with frequent attempts to elevate the head and shoulders. Now, the *crepitant* rhoncus disappears, and is replaced by a mucous rhoncus; percussion gives increasing dullness over that portion of the lungs involved in the inflammation. This indicates hepatization, which, increasing, gives rise to extreme dullness on percussion and to a remarkable clearness of the bronchial sound, and to broncophony.

The cough, which has generally increased up to this time, is now attended with expectoration of an opaque mucus, which becomes characteristic about the fifth or sixth day. The sputa is of a yellowish, reddish, or rusty frequently, rusty tinge, semi-transparent, tenacious and globular; when discharged into a vessel, it runs together forming a single mass, so tenacious that the vessel is



be inverted without detaching it. The rusty sputa has been considered as pathognomonic of pneumonia.

By this time the dyspnœa is much increased, the inspirations being obviously short and quick. If the disease is extensive, the oppression becomes urgent, and the sense of weight and anxiety are extreme. About the fifth or sixth day, in favorable cases, the disease commences to decline, the inflammation terminating by resolution. The cough becomes looser and less distressing; the expectoration less viscid and rusty-colored, and more abundant, resembling the sputa of bronchitis, the pain and dyspnœa are gradually relieved, the febrile symptoms disappear, and the patient is convalescent at about the seventh to the ninth day of the disease.

Otherwise, the hepatization goes on, the dyspnœa is increased, and so urgent is the call for breath, where a large portion of the lung is involved, that the patient has to have the head and shoulders raised, and call into action the external inspiratory muscles. The inspirations are short, forced and rapid, sometimes from forty to sixty per minute. The cough is persistent and extremely annoying, the viscosity and color of the sputa corresponding to the intensity of the disease. The general symptoms correspond with the local, the pulse is increased in frequency to a hundred and twenty, or even a hundred and forty beats, per minute, and is small and hard, or soft and fluent; the skin is hot, dry and rough; the tongue is heavily coated with a brownish, offensive mucus, which becomes darker as the disease advances, sordes appearing around the teeth. The patient becomes delirious, at first but partially, and for a portion of the day; but finally it becomes continuous, and sinks into a low, muttering delirium, or into coma. The symptoms above named extend over a period of one or two weeks, sometimes coming on rapidly, in others very slowly; the disease terminating fatally in some by the twelfth day, in others

in three or four weeks; or the patient recovers after this having worn the disease out.

TREATMENT.—Inflammation of the lungs does not generally require very active treatment, mild measures seeming to answer a better purpose. It has been proven by numerous experimenters that a very large proportion of cases would recover with but simple diet and rest, without the use of medicine. As an instance, Dr. Deitl gives the results of 380 cases of inflammation of the lungs, of which 85 were treated by blood-letting, 106 by tartar emetic, and 189 by diet and rest alone. Of those treated by blood-letting, 17, or 20·4 per cent., died; of those treated by tartar emetic, 22, or 20·7 per cent., died; whilst of those treated by diet and rest alone, only 15, or 7·4 per cent., terminated fatally.

These are facts, and not only show that inflammation of the lungs will get well without medicine, but it proves conclusively that the old fashioned practice was wrong, and justly chargeable with a large per centage of the deaths; that instead of being of any service, doctors were chargeable with killing every other man that died *with* the disease. This is a pretty strong statement, but it is a true one, and is fully borne out by many of the best writers on medicine.

The treatment named for bronchitis might be adopted, but I should prefer simple medication. Have the person frequently bathed with the alkaline wash, to prevent undue heat of the skin, and apply a poultice of bran & cornmeal to the chest, changing it twice a day, keeping the patient well covered. Give internally, tincture of *Veratrum* ten drops, tincture of aconite five drops, water four ounces, a teaspoonful every hour until the fever subdued, and then in smaller doses. On the third or fourth day add a solution of acetate of potash in the usual doses.

The patient's bowels should be kept regular, but active physic should be avoided. If the cough proves ver-

give a sufficient dose of opium to give the necessary sleep. Let the patient's food be light and nutritious. the room well ventilated, and everything scrupulously clean.

### *ASTHMA.*

**Symptoms.**—The symptoms of asthma are so marked an extended description is unnecessary. In some the attack is preceded for a day or more by a loaded head, some pain and weight in the head, and a feeling of languor, but in others there are no premonitory symptoms.

The disease is sudden in its onset, the patient awakened at night by a feeling of impending suffocation, or forced to throw open the windows and doors in order to get breath. Usually it comes on gradually, attaining its greatest violence in two, three or four days, and gradually disappearing. We find a patient suffering from an attack of asthma with the head and shoulders thrown forward, the breathing remarkably difficult, wheezy, laborious and prolonged, and anxiety and evidence of imperfect aeration of the blood, proportioned to the severity of the disease.

Sometimes there is markedly increased secretion, the passages seeming to be loaded with mucus, at others expiration is shrill and whistling. Cough is present in all cases, sometimes very severe and prolonged, and may rise to very great difficulty of breathing, and aggravating the patient's suffering, at others short, and occurring at unfrequent intervals.

The duration of the paroxysms is very variable, sometimes but a few hours, at others days or even weeks. The recurrence, too, varies greatly even in the same patient. In some the patient is hardly free from the disease in autumn until summer. Rare cases are met with in which the one attack having been arrested, the patient is predisposed to its recurrence, but in a large majority of cases the disease becomes constitutional, and an attack of asthma



ma is the result of any indiscretion, or sudden change of weather.

TREATMENT.—The treatment of asthma is very properly divided into the *palliative* and *curative*, or treatment for the relief of the paroxysm, and that for the radical removal of the predisposition to asthma. To relieve the paroxysm many means have been made use of. One of the most efficient is the lobelia, which may be given in the form of the tincture, from half to one teaspoonful for a dose, or the emetic powder in infusion, in quantities sufficient to produce nausea. Ipecacuanha in nauseating doses, with small portions of opium, sometimes answers the purpose. Powdered lobelia herb, stramonium or jimson weed, and the mullein, have been recommended in asthma, smoked in a common tobacco pipe, and I have known them to be used with good results. Nitrate of potash or saltpetre is one of the best remedies I have ever employed; dissolve it in boiling water as long as the water will take it up, and then saturate common brown paper with it, let it dry, and during the attack burn it in the patient's room, letting him inhale the smoke.

It is very difficult to remove the predisposition to asthma, and in some cases it is impossible. Various means have been recommended as specifics, but so far they all have failed. The treatment must be conducted on general principles, determining, if possible, the cause, and removing this. It would be useless to name individual remedies for asthma in a work of this kind, as they would be used wrongly twice where they would be used properly once.

### CONSUMPTION.

Of all the diseases to which mankind are subject, none makes such ravages as consumption. It spares neither the high nor the low, the rich nor the poor—from all classes of society it gathers its victims. How many hearths have been darkened by this fell destroyer the

—how many bright hopes crushed to the earth; and how many have the dark shadow thrown over them recent! It is an insidious disease, stealing on the heedless unawares, flattering him with false hopes, soothing him with illusory amendments, until, finally, he is led beyond the reach of aid. Most other diseases cast their shadows before; their influence is evident, their symptoms sufficient to arouse the sufferer to a sense of his danger before serious change has taken place. This does not always give little alarm; there is but little suffering; a gradual sinking of vital power, a gradual deposition within the substance of the lungs of a material which will finally destroy them, the mind still remaining bright and clear, as if it had no connection with the gross materials of which our bodies are composed. What is not strange of consumption, is, that though it is all around us, though it has entered our own houses, taken its victims from our own firesides, robbed us of friends and relatives, yet we do not seem to have a wholesome dread of it—a fear that would lead us to inquire into its nature, its causes, or the means by which we may ward off its attacks.

*What is consumption?* It is the generally received opinion that consumption, or *phthisis pulmonalis*, is a disease affecting the lungs exclusively, having there its primary seat, and only incidentally affecting the general system. It is only this the generally received *theory*, but the *practice* of many is based upon it. Medicine is given for the influence it produces upon the lungs, and very many cases for no other purpose. I will endeavor to show that this opinion is not correct; that consumption or disease of the lungs is a secondary affection, being invariably produced by deficient vitalization of the blood; that it is principally a disease of the blood; and that the removal of this diseased condition is the principal object to be accomplished.

The blood is composed of *red globules, albumen, fibrin,*

salts, and water; so long as these elements are properly elaborated and exist in normal proportion, it is impossible for any of them to be deposited in the structure of organs as tubercle. And why? Tubercle is composed of *albumen* and *fibrin* derived from the blood; and an examination of this shows that it has been imperfectly elaborated. We also find, even in the first stages of consumption, and previous to the commencement of the disease, marked symptoms of an imperfect vitalization of the blood. Lastly, we may cause the deposition of tubercles in the lungs and other parts of the body of animals, by placing them in such conditions as prevent the proper formation of this fluid. Rabbits confined in a dark, damp room, and insufficiently fed, or obliged to live on food difficult of digestion, invariably have a deposition of tubercles in some part of the body, the blood being scanty in quantity, watery, pale, and imperfectly formed. Of seven dogs confined for twenty-six days in a cellar imperfectly ventilated and dark, and fed exclusively on vegetable food, five had tubercles deposited in the lungs; in all, the blood was deficient, both in quantity and quality. Numerous experiments, similar to the above, are on record, and the results in all are the same.

We find, upon examining into the previous history of consumptive persons, that there was invariably a depressed condition of the system, arising from impoverishment of the blood, deficient innervation, and imperfect digestive power. This deficiency of vital force may have been hereditary, or it may have been produced by some depressing cause, as previous disease, sedentary habits, living in ill-ventilated houses, improper food, privation, severe mental exertion, the depressing emotions, etc. We need not hear of persons "going into a decline;" and it will be found that this decline precedes the deposit of tubercles in the lungs in all cases, though in some it is much better marked than in others. To state the case fairly, then, we believe it is conclusively proven that there must be a



ge in the blood before tubercles can be deposited in lungs; that this change consists in a want of due elaboration of the fibrin and albumen—in fact, a want of vitalization of this fluid.

In addition to this change in the constitution of the blood, there must be some cause to determine the deposit of this devitalized albumen in the substance of the lungs. The cause is some irritation of these organs, which would determine an increased circulation of blood in them; as, for instance, a protracted cold in the chest, chronic bronchitis, irritation of the nerves, producing chronic cough,

Without this irritation, the lungs will not be the seat of the deposit of tubercle. Thus we find that where there is depression of the system and want of elaboration of blood exists, but no irritation of the lungs, tubercles will be deposited in other places; as where there is great irritation of the bowels in childhood, it will be deposited in the mesenteric glands, producing *tabes mesenterica*, or abdominal consumption; or if there is irritation of the liver, the spleen, the brain, etc., the tubercles will be deposited in those organs.

"The following," says Dr. Copeland, an eminent author in medicine, "may thus be inferred as the successive morbid phenomena resulting from the action of the various causes of *phthisis*, whether occurring singly, or in various combinations, or in succession: 1st. Depression of the organic, nervous or vital power of the frame, or an imperfect development of this power, owing to hereditary or congenital, or to more immediate or direct causes operating in early or advanced epochs of life. 2d. Morbid states of the circulating fluids, especially of the chyle and blood, commencing with the slow or imperfect development of the chyle globules, and followed by a slow or impaired metamorphosis of these and of the blood globules, or of the former into the latter—the plasma or *liquor sanguinis*, with its fibrin, being deficient in vital endowment. 3d. A wasting or diminution of the red globules,

and an impairment of the vital endowment of the blood by excessive secretion and excretion from the lungs, skin, and bowels."

CAUSES OF CONSUMPTION.—The causes of consumption may be divided into two classes, *predisposing* and *exciting*. By a *predisposing* cause, I mean one that has a tendency to lower the vitality of the body, and prevent that due elaboration of the blood, upon which good health depends. By an *exciting* cause, one that will produce irritation of the lungs, cause determination of blood to them, thus causing deposit of tuberculous matter within their structure. The share which these two classes of causes have in the production of tubercle, varies in different cases. When the person is little exposed to the exciting causes, the constitutional predisposition may be long present without any local affection, while continued exposure to exciting causes may determine the local disease when the morbid state of the constitution exists in a slight degree. We have examples of the former among the wealthy classes of society, where we see the tuberculous cachexia prevail for a considerable time without the actual development of tubercles, because the person is little exposed to the usual exciting causes, and even sedulously avoids them; and we meet with instances of the latter among the poor, when engaged in occupations in the exercise of which the lungs are peculiarly exposed to irritation, by which a diseased state of the bronchial mucus membrane, and ultimately tuberculous disease, are produced. The most striking examples of consumption which have been adduced, as the consequence of pulmonary irritation, occur in persons who are at the same time exposed to some of the most powerful causes of tubercular cachexia, such as sedentary occupations carried on in a confined and deteriorated atmosphere, and very often also to excessive indulgence in the use of ardent spirits; so that they are exposed to the causes of the constitutional and local disease at the same time.

HEREDITARY PREDISPOSITION TO CONSUMPTION.—That children inherit a predisposition to consumption from their parents is a well-established fact. Thus, we rarely see a child where the father or mother has died of this disease, and the children exhibit evidences of the tubercular constitution. We also find that where, from chronic disease or from excess of any kind, the health of either parent has suffered greatly, the children will, in various cases, be deficient in vitality, and predisposed to consumption. Dr. Powell, in writing on this subject, says: "The amount of disease and premature death that has been entailed upon society by the marriage of unhealthy persons is such as to demand, on the part of society, the enactment of some protective ordinance. If the consequences were confined to the parties themselves, or even to their children, the evil would be comparatively small; but the multiplication of it is so rapid, that, in a few generations, a very large extent of country becomes similarly affected. Because a man or woman has acquired a predisposition to consumption, or some other form of disease, it does not follow that the privilege should exist to entail the same upon others."

"There is scarcely an individual in society who has not witnessed the deplorable consequences of the marriage of those who have had entailed upon them a predisposition to consumption, to insanity, to apoplexy, &c. When what should we think of those, who, knowing themselves, by what they know of their ancestors, and with such predispositions, place themselves in a similar situation as to visit the mischief upon unborn generations, perhaps thousands?"

"It is very easy to account for this hereditary predisposition to consumption. We find, as a never-varying law of nature, that where deterioration of the parent, whether animal or vegetable, has taken place, the succeeding generation shows marked evidence of this. Thus, the farmer does not expect good sound crops from seed that was



unsound, or the product of unhealthy plants; he would not select grafts for his orchard from trees affected with the rot, or where there had been marked deterioration in the quality of the fruit; neither would he expect to raise fine stock from parents that were unsound. There is little use to argue a question like this, as the evidence of the truth of the proposition is so abundant, that one has but to open his eyes to see it.

PREDISPOSING CAUSES ACTING DURING EARLY LIFE.—Of these causes there are many, but we will here consider those that are most apparent. Many parents appear to pursue, from choice, the very course best adapted to produce the tuberculous constitution. Thus, some are constantly over-feeding their children, or, what is worse, pampering their appetites with sweets, cakes, candies, pies, tarts, etc., the best possible means in the world to destroy the tone of the digestive apparatus, to produce an elaboration of *poor* blood, and consequent *mal-nutrition*. How can we expect strong, robust men and women under such circumstances? Others, again, constantly fearful that their children will take *cold*, or get *sick*, keep them almost constantly in the house, deprived of fresh air, exercise, and very frequently of light. We might just as well expect to raise our garden vegetables in the cellar, as expect to raise children in this way. Did you ever notice a plant kept from light and air—how pale, slender, and puny it appeared, having hardly strength enough to support its own weight? So with children raised in the house, they are pale or sallow, debilitated, no strength, and unable to resist the slightest exposure. A third class, the votaries of fashion, when they do take their children out, have their feet cased in paper shoes, their knees bare, and the chest and arms poorly protected, or not protected at all against the cold; the result is croup, bronchitis, inflammation, and other disorders of the lungs, which frequently prove the seeds of consumption in the future.

at the age of six or eight years, sometimes sooner, for causes are brought to bear against the child—it is sent to be schooled, and frequently this schooling is but the advancement of the mind at the expense of the body. The child's mind is forced; it is conning lessons when it should be at play; it is increasing the activity and size of the brain, at the sacrifice of future health and strength. Not only so, but it is too much confined to school-rooms, with heated, impure air, absence of sunshine, and want of exercise. Defend us, good Lord, from the *precocity* of this untoward generation!

At the age of puberty, say from the twelfth to sixteenth year, we find as a general rule that the emotions are cultivated at the expense of the body. Boys and girls are reading *novels*, not representative of actual life, but filled with characters whose sole aim in life appears to be centered in *love*—not the affection, mind you, that is based upon the understanding, and which forms the happiness of married life, but the animal or sexual instinct. If we were to sum up all the predisposing causes of this disease, we believe that not one of them could compare with this. In this school of masked vice, the sexual passions attain an unnatural preponderance, and attain it, too, at the expense of *life*. Reader, if you are a father or mother, banish this trashy stuff misnamed literature from your houses, fear it as you would the Evil One, for its reading not only involves a waste of time, but gives a misconception of life, and in the young risks the wreck not only of virtue, but also of health.

Children and young persons subjected to the causes above mentioned, become delicate and sickly. The vital endowment and the structural development of the several organs and textures, are impaired or arrested in their progress. Like plants growing excluded from the sun and wind, their vessels often extend rapidly in the direction of their axis; but the walls of the vessels and their lateral branches are thinly or weakly formed, are sur-



rounded by lax cellular tissue, and both the organic nerve and the animal fibers are imperfectly constituted. The formative processes seem arrested before they are completed. The circulating fluids present a superabundance of the serous and albuminous constituents, and a deficiency of fibrin and red globules. While the blood is defective in its constitution, the blood-vessels are impaired in their tone, and the venous and lymphatic systems are more manifestly or prominently developed.

The *predisposing* causes of consumption in adult life are many, as society is organized, and yet there are but few which cannot be avoided.

*Sedentary employment* might be named as one of these, especially if carried on in a confined workshop. In such cases there is want of air, light and exercise, the three most important influences in preserving health, and we should reasonably expect that with deficiency of these there would be deterioration of all the functions of the body, and the elaboration of poor blood. Its injurious effects may be counteracted by free ventilation, good exposure of the workshop to light, and plenty of exercise after working hours. In these cases a gymnasium is worth the services of a hundred doctors.

The *fashionable follies* of the day have to answer for the loss of thousands of lives by consumption. Thus we daily see women who, the larger part of the time, confine themselves in close, heated rooms, appear upon the streets with but little if any clothing to protect the upper part of the chest and arms from cold. We see them frequenting the ball-room and other places of amusement, clad in the same manner, exposing the over-heated body on their return home to the chill night air. Can we with justice say that in these cases consumption is an inscrutable dispensation of Providence?

*Overcorking the brain* is a fertile cause of consumption in this fast country. Our business men are constantly grasping after wealth, and in addition to an overworked



, we find them neglecting the most common means of reserving the health. They succeed in their object, in the race they become prematurely old, and may succumb to this dread disease before they reach the prime of life.

*Want of exercise* is the most common of the predisposing causes of consumption. Moderate and sustained exercise in healthy air, as in walking, riding on horseback, and in various occupations and pastimes, excites into activity most of the functions of the body, especially the circulation and respiration, or those intimately connected with these, the secretions and animal heat, and provided the fatigue or exhaustion resulting from this excitement be adequately removed by sufficient rest and sustenance, the functions gradually gain vigor by their activity, and the structures exercised acquire a fuller and healthier development. The muscles, especially, including the heart, manifest an increase of strength and firmness; the blood-vessels are improved in tone, by which they distribute and equalize the flow of blood through them, and prevent arterial congestions and obstructions; and the blood, actively carried through the organs and textures, undergoes the complete series of changes from nutrition, purification, arterialization, by which its integrity is maintained, and it is adapted in its turn to sustain the several functions of the body. The appetite, the digestive powers, the intestinal action, the warmth of the surface and extremities, the spirits and temper, are generally all improved by the habit of regular exercise. *Want of exercise* induces torpor of all the functions of the body, deranges the secretions, impairs digestion, and predisposes to impoverishment and deficient elaboration of the blood, which we have seen to be one of the main causes of tuberculosis.

Of the *direct causes* of consumption in adult life, we might name but the single one, a *neglected cold*, which still further reduces the vitality of the blood, and by the irri-

tation kept up in the lungs causes debility of their structure, constant determination of blood, and finally deposition of tubercular material in them.

PREVENTION OF CONSUMPTION—*Marriage*.—I have stated in the preceding pages, that the health of the child depends, in a great degree, upon the constitution of the parents, and that when one or both parents were in feeble health, lacking in vital power, their children could not be healthy. No fact in medicine is better proven than this. Were parents convinced that the health of their children depended upon their own, a beneficial effect might be produced among the more reflecting part of mankind, and especially among families of a scrofulous habit. If more consideration were bestowed upon matrimonial alliances, and a more healthy and natural mode of living were adopted, the predisposition, which is so often entailed upon their offspring, might be checked, and even extinguished in their family in two or three generations. In the present state of society, the reverse of this very commonly happens; and from the total disregard of the precautions alluded to, the third generation often terminates the race.

The children of dyspeptic persons generally become the subjects of dyspepsia, in a greater degree, and at an earlier period, than their parents; and if they marry into families of a delicate constitution, their offspring become highly tuberculous, and die of consumption in early youth, or even in childhood.

This extinction of families may be prevented by judicious intermarriages with healthy persons. Families already predisposed to tuberculous disease, should at least endeavor to avoid matrimonial alliance with others in a similar condition; but above all, they should avoid the common practice of intermarrying among their own immediate relations—a practice which is at once a fertile source of scrofula, a sure mode of deteriorating the intellectual and physical powers, and eventually the means





most important being that of cleanliness, especially in the tuberculous infant, in whom it is essential that the cutaneous functions should be maintained in a state of healthy activity. At first the infant should be washed with warm water; and a bath every night, with the view of thoroughly cleansing, will be beneficial. The second object in bathing being to brace and strengthen the child, it may, as its age increases, be sponged in cold water, or even plunged into it every morning during the summer with advantage. The judicious adoption of this plan, along with subsequent friction of the body, with flannel or the hand, is, we believe, one of the most effectual means of strengthening children, but its effects must be carefully watched, as all children will not be equally benefited by cold bathing, and the health of some may even be injured by it.

Tuberculous children should be accustomed to the open air from an early age; as with plants, the human species can not be robust and stout without fresh air and sunshine. As soon as they commence walking, they should play in the open air whenever the weather is suitable. In this way the constitution is strengthened, and the liability to colds by alternations of temperature much reduced. Sleeping rooms should in all cases be large, well ventilated, and exposed to the direct rays of the sun during some portion of the day. The occupation of dark, ill-ventilated rooms, with their necessarily impure atmosphere would produce consumption in many cases where there was but little predisposition to it.

Up to the age of eight or ten years, the child's occupation should be out doors; and whether it was play or work, it should be of such a character as to bring into action all the muscles of the body. Before this age, the child should not be required to study, neither should it be sent to school, there being sufficient time after this, for all laudable educational purposes. Regular meals of good hearty food, with fruits in their season, with a sedulous

ce of all sweetmeats, cakes, etc., are of the high importance. If these almost self-evident rules for weakening the constitution during childhood were followed and carried out, I believe that one-half of those who die of consumption, might live to a good old age.

**Symptoms of Consumption.**—Consumption usually comes on slowly and insidiously, and considerable time elapses before either the sufferer or his friends can believe that he is diseased. Previous to its commencement there is a more or less failure of the general health, though the patient complains but little, and attends to his business as usual.

A bad cold is then contracted which affects the lungs, giving rise to a cough. This, though not bad, is persistent, and week by week it may be noticed that there is a slight failure of the general health, marked by loss of strength and flesh, pallid skin, and enfeebled circulation. This may be called the first stage of the disease.

The second stage presents marked evidence of serious disease, but even yet the sufferer cannot believe that he is diseased. The cough is persistent and harassing, there is pain in the chest, slight difficulty of respiration, and frequently hemorrhage of the lungs. The patient is feeble, has a poor appetite, soon becomes tired, has a fever in the evenings, and commencing night sweats.

In the third and last stage, we find the lungs breaking down and being thrown up with the tubercular deposit. The cough is very severe and harassing, hectic fever is increased, and the night sweats exhausting. The patient expectorates large quantities of a muco-purulent material, and when hemorrhage occurs it is severe. They are now very thin, and their strength is so exhausted that but little exercise can be taken. In addition to the night sweats, there is not unfrequently a colliquative diarrhoea, which greatly increases the debility. Continuing thus for a considerable period of time, gradually losing strength,

they die without any considerable increase of symptoms.

TREATMENT.—As heretofore remarked, the treatment of consumption should be preventive, and the necessary hygienic measures should be adopted in early life. There is no doubt but that the predisposition to consumption can be removed, but when such predisposition exists, the disease when fully developed can *never* be cured, and it is folly to attempt it. In the first stage many cases can be cured, in the second stage a few will recover, but in the third not one. No one need expect a cure, however, unless he firmly determines that he will use every available means to live.

The cure of consumption does not depend upon medicine, though this is sometimes very important, but it depends upon an aggregation of all the influences that will improve digestion, assimilation, the quantity and quality of the blood, and the nutrition of textures. The medicines applicable in this case are those that lessen irritation of the lungs and quiet cough, and those that improve digestion and the quantity and quality of the blood. Cough medicines do not cure consumption, but they will lessen irritation, and thus prevent increased deposition of tubercle. These remedies should always be prescribed and taken under the direction of a physician, as even a medical man would not take the responsibility of treating himself in such cases.

There is much, however, that the patient can do himself. His habits must all be regular, with avoidance of depressing influences, a cheerful mind and fixed determination to get well if possible being very important. The clothing should be warm, and such as will protect the body from injury by sudden changes of temperature, and against changes of weather while taking exercise. Flannel should be worn next the skin, and in fall or winter the chest should be additionally protected by some light fur worn next the under-clothing, as rabbit, squirrel or cat



The boots or shoes should be heavy, have cork in-  
a, and be water-proof, and a rubber poncho used when  
ing exercise out-doors in damp weather.

All this is preparatory to the most important part of  
treatment. The person who recovers from consump-  
n must, as a general rule, live in the open air. Mode-  
e exercise in the open air is absolutely indispensable to  
e in these cases, and should be taken at all seasons of  
e year, and at all times unless when raining. I do not  
eak from the book, but from large experience, and can  
ost positively assure any one suffering from this disease,  
at this is the only chance of safety. Though placing  
ch reliance upon out-door exercise, I wish it understood  
at it is to be proportioned to the strength of the patient,  
nd must not be carried to exhaustion.

Normal action of the skin is of great importance, as  
e sympathy between it and the lungs is very intimate,  
e skin being in fact, to some extent, a respiratory appa-  
tus. We employ baths of various kinds, cold, tepid and  
arm water, stimulant baths, tonic baths, oleaginous fric-  
ons, etc., which will be adapted to the case by the physi-  
n in charge.

As regards the diet, it should be nutritious and easily  
ested, and taken in moderate quantities. All innutri-  
is articles should be rejected, or used in very small  
ntities, simply as appetizers. Fatty matters have been  
ad very important, as furnishing material for combus-  
, and saving the protein elements which require so  
ch vitality for their elaboration.\* Thus, cod-liver oil,  
m, beef suet, etc., have gained great reputation as  
ative remedies in consumption. The blood *is* the life  
he body, and the deposit of tubercles in the lungs de-  
ds upon imperfect organization of this fluid. Hence  
great importance of obtaining a normal quantity and  
lity of this fluid by strict attention to diet and regimen.  
The proofs that consumptive persons do recover are  
itive, and should be sufficient incentives to every per-

son to make the necessary effort. Hundreds of cases recorded, of examinations of the bodies of those dying of other diseases, but who have had symptoms of consumption in previous years, and in which there was perfect recovery. In some cases chalky material was deposited in the tubercles, in others they were partially absorbed and organized, and in others still the cicatrices in the lungs have shown where the tubercles have been removed by expectoration and the ulcers healed up. It may be that you are so predisposed to the disease that there is no chance of recovery, but still if you are able to pursue the course designated above, your life is worth the effort.

#### HEMORRHAGE FROM THE LUNGS.

Hemorrhage from the lungs is a very rare disease, except as the result of tubercular deposit; and though frequently made light of, I know of no symptom so certain. It is not, as popularly supposed, caused by the rupture of a blood-vessel, or, as some in the profession think, by their erosion during the breaking down of tubercle; for blood-vessels are not easily ruptured, and they yield to the ulcerative process so slowly, that obliteration of their cavity takes place some time previously. Hemorrhage is, in a large majority of cases, an exudation from the blood-vessels, and its probable cause is compression of the veins by the tuberculous deposit, thus preventing the free return of blood to the heart. We have a similar instance in hæmoptysis from disease of the heart, the free passage of blood from the lungs through the left auricle and ventricle being obstructed.

Symptoms.—Evidences of debility, and frequently of disease of the lungs precede hæmoptysis. There may be no seeming cause for it in some cases, coming on when the patient is sitting or lying still, or sometimes when asleep; but usually it is after exertion, or a fit of coughing. Varying in quantity, we find it sometimes raised by an act

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The average weight of the average man is 150 pounds. The average weight of the average woman is 120 pounds. The average weight of the average child is 70 pounds. The average weight of the average dog is 50 pounds. The average weight of the average cat is 10 pounds. The average weight of the average horse is 1,200 pounds. The average weight of the average elephant is 5,000 pounds. The average weight of the average whale is 50,000 pounds. The average weight of the average blue whale is 100,000 pounds. The average weight of the average sperm whale is 40,000 pounds. The average weight of the average humpback whale is 30,000 pounds. The average weight of the average minke whale is 10,000 pounds. The average weight of the average narwhal is 1,000 pounds. The average weight of the average walrus is 2,000 pounds. The average weight of the average manatee is 1,000 pounds. The average weight of the average dugong is 1,000 pounds. The average weight of the average manatee is 1,000 pounds. The average weight of the average dugong is 1,000 pounds. The average weight of the average manatee is 1,000 pounds. The average weight of the average dugong is 1,000 pounds.

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often as it seems necessary. The *lycopus virginicus* has proven very successful, and may be depended on. It is administered in infusion, one ounce to six ounces of boiling water; half an ounce of the infusion every half hour. *Ipecacuanha* has been highly recommended, and I am satisfied it exerts a marked influence; it may be given in doses of from half to one grain every fifteen or thirty minutes, until nausea is induced.

Sulphate of magnesia in half-drachm doses, with diluted sulphuric acid, has been used with advantage, as has also alum, in doses of from two to five grains, with gum tragacanth, every half hour. If hemorrhage is feared, oil of turpentine may be used in doses of from five to ten drops, every three or four hours. The oil of erigeron, in doses of ten or fifteen drops, is relied on by many, and I have no doubt will answer the purpose in many cases.

### PLEURISY.

The serous membrane, enveloping the lungs, is not unfrequently the seat of inflammation, which, when occurring without disease of the lungs, is called pleurisy. A milder form sometimes occurs with pneumonia.

SYMPTOMS.—Sometimes pleurisy is preceded for a short time by languor, headache, loss of appetite, and derangement of the secretions; but usually there are no evidences of disease until the commencement of the chill or pain. A marked chill usually ushers in the disease; sometimes it is preceded by pain, at others it is not; fever follows, and is generally high. The pain is sharp and lancinating, increased when the thorax is moved, much easier when kept perfectly quiet. In consequence of this pain, we find the respiration short and hurried, and principally abdominal, as anything like a full inspiration produces excruciating suffering. A dry, hacking cough attends the disease, and is a source of great annoyance to the pa-

t. Pleurisy is characterized by a hard, small, frequent pulse, running sometimes from a hundred and twenty to a hundred and forty beats per minute; the skin is dry and harsh, the urine scanty, tongue coated white, and bowels constipated.

These symptoms continue without change for from one to three days, unless arrested by treatment, when effusion taking place, the pain is lessened; but the difficulty of breathing and other symptoms are increased. The fever now is markedly lessened, the pulse is still frequent, but has lost its hardness; the trunk is hot, but there is tendency to coolness of the extremities, the secretions are checked, there is still cough, and sometimes expectoration, the patient feeling very much prostrated, especially after a paroxysm of coughing. The difficulty of breathing is sometimes so great that the patient can not lie down; in such cases there is abundant effusion.

The disease may terminate fatally in the first or second stage. If in the first, the fever is very high, and the pain excruciating; the pulse is wiry and quick; respiration rapid, sometimes fifty per minute; delirium ensues, and the patient succumbs, usually within forty-eight hours. After effusion we find the patient losing strength, day by day—a low form of remittent fever is present, respiration difficult, the patient has no appetite, and is generally worn out by the disease.

TREATMENT.—The objects of treatment are to lessen the acidity and equalize the circulation, and, by different means of derivation, check the flow of blood to the pleura. We can accomplish this in different ways—thus, one will give an infusion of the compound powder of lobelia made, and give it freely until nausea is induced; and after this has relaxed the system and mitigated the pain, give it to produce thorough emesis. It would seem, at first sight, as if the patient could not bear the severe movement of the chest necessary in vomiting, when the hacking cough produces so much disturbance; but we

find the nausea to so check the pain that the vomiting does not occasion additional suffering. Others, again, would arrive at the same result by inducing profuse diaphoresis with the spirit-vapor bath, and the free administration of an active diaphoretic, as the compound tincture of Virginia snake-root.

It will be noticed that these means are powerfully relaxant, indirectly sedative, and thoroughly revulsive, and will sometimes check the disease at once. I have seen it treated by podophyllin, in doses of from half to one grain every three hours, until emeto-catharsis was induced; and am satisfied, in my own person, that it is very effective, though extremely unpleasant.

A much more pleasant treatment is to give the patient tincture of veratrum, in doses of from one to two drops every hour until partial sedation is induced, and then add the tincture of asclepias in half-drachm doses. It is well to get an action on the bowels with the podophyllin pill, heretofore named, and in some cases add sufficient opium to mitigate the distress. Cups to the affected part, followed by hot fomentations, or a warm poultice of wheat-bran, assist very materially. A sinapism, followed by hot hop or stramonium fomentations, may be used instead; or the cold water bandage, recommended by some, may occasionally be found useful.

### WHOOPIG-COUGH.

Whooping-cough is a contagious disease, like measles and scarlet fever, being propagated from one to another by inhaling the breath, or emanations from the body of a person suffering from the disease. Sometimes, however, the poison seems to contaminate the atmosphere so that persons take it when at considerable distance from those who have it.

**SYMPTOMS.**—Whooping-cough manifests itself at first as a simple catarrh, the cough being gradually developed.



several days elapse before there is any thing distinctive in it, and it is not usually well marked under from two to three weeks. The cough differs from others in that it seems to arise from an obstruction to respiration, and forcible inspiration is taken, and then there is a series of short expulsions until the air is all expelled; the tendency of the cough still continuing, produces great distress, and more or less evidences of impaired respiration are noticed. The *whoop* is developed when the cough becomes intense, and is the shrill sound formed as the air is drawn through the yet contracted larynx in the forcible inspiration succeeding the cough. The cough is paroxysmal, the paroxysms recurring at longer or shorter intervals, in proportion to the severity of the disease.

There is a secretion of glairy mucus in most cases, which is raised at the latter part of the cough, and frequently seems to increase the suffering. If the disease is very severe, and sometimes when mild, there is a free yellowish expectoration. There is, necessarily, some fever at the commencement of the disease, and it may occur during its progress.

Writers divide pertussis into three stages—the first, lasting from five to fifteen days, presents the symptoms of ordinary catarrh; the second, lasting from three to six weeks, presents the peculiar whoop, which gives name to the cough; and the third, of variable duration, is the period of decline.

It is during the second stage of the disease that the symptoms become so aggravated as to demand relief. We sometimes see the paroxysms of cough so severe that the little patient will turn purple in the face, gasp for breath, and even for some time afterward exhibit marked evidences of imperfect respiration. Occasionally bronchitis sets in and is very troublesome; sometimes there is marked congestion of the lungs; at others, the frequent and severe paroxysms of coughing prevent necessary rest, derange the functions of the body, and wear the patient.

out. In some cases there is tendency in the disease to recur, for months after it has ceased, on exposure to cold, though almost always in a mild form. Instead of impairing the strength of the lungs in feeble children, it seems rather to have increased it, and may sometimes be regarded as of marked advantage to the child.

TREATMENT.—In a majority of cases of whooping-cough, but little treatment is necessary, as the disease has a regular course to run. Where treatment becomes necessary from the severity of the cough, any nauseant expectorant may be employed with advantage. The compound syrup of lobelia will prove an excellent remedy, as will the tincture of oil of lobelia and stillingia. Belladonna is a favorite agent with many. I order it in the following manner: Take tincture of belladonna, half drachm; alum, one drachm; simple syrup, six ounces; and give in teaspoonful doses every three or four hours. Nitric acid is also employed in this disease; add one drachm to six ounces of simple syrup, and give a teaspoonful every three hours. Another excellent remedy in some cases, is a strong infusion of red clover hay, sweetened, and give one or two teaspoonfuls every two hours. Tincture of drosera, half drachm, to water four ounces, a teaspoonful four times a day, has proven a specific in other cases.

#### DISEASES OF THE HEART.

The heart, like all other structures of the body, is liable to disease; in fact, we may say it is liable to all diseases that affect other parts. Thus, it may be the seat of inflammation, acute or chronic, of rheumatism, of change of structure, and of functional disease.

*Inflammation and rheumatism* of the heart are so similar in their symptoms that it is almost impossible to distinguish one from another. The symptoms are usually very severe, the oppression and pain in the region of the heart being very great, a very rapid pulse, and dif-



It respiration. If, during the progress of rheumatism, the symptoms should set in, send immediately for your physician, for it requires prompt and energetic treatment. The treatment named for rheumatism may be adopted till advice can be had, using the hot-blanket pack, and mustard over the part affected. If you are near a cupper, send immediately and have from four to eight *dry cups* applied over the region of the heart. It is the most powerful and certain means that can be adopted in most cases.

*Chronic structural disease* of the heart can only be determined by a physician skilled in auscultation, its symptoms resembling very closely those of functional disease. But very little can be done for it, except to moderate the more urgent symptoms, yet the patient may live for many years, or he may die suddenly at any moment. It is true that in some cases of this kind, if the disease is recognized early, the trouble can be entirely removed by a judicious and long continued course of medicine and hygiene.

*Functional diseases* of the heart are of far more frequent occurrence than structural disease, and, as before remarked, the symptoms in the one case will closely resemble those in the other. It may be dependent upon many causes, though in all cases the nerves distributed to the heart are especially implicated. Thus I have seen a number of cases of what seemed to be serious heart disease, dependent upon irritation of the stomach, and consequently of the pneumogastric nerves; others were dependent upon derangement of the kidneys; others upon disease of the spinal cord and brain; whilst in some the disease was confined exclusively to the nerves of the heart.

If, now, it was dependent upon disease of the stomach, the removal of such disease would pave the way for a cure, so of the bowels, kidneys and other parts. Then we have remedies that relieve irritation of these nerves, and they prove important curative means. Others strengthen the entire body, and especially the heart, and we use these



when the trouble is wholly or partly dependent upon debility of the organ.

If you have palpitation of the heart, irregular action, a sensation of weakness and smothering in that region, difficult respiration and sensation of sinking, do not become alarmed and think you are going to die, or that you have an incurable disease, but consult a physician capable of determining the nature of the difficulty. In two out of every three cases the disease is remediable, when a proper course of treatment should be adopted. In the other case a man knows what he has to depend upon, and can make preparation to die, though he may live for years.

#### ***DISEASES OF THE DIGESTIVE ORGANS.***

The digestive organs, as will be recollected, consist of the mouth, throat, stomach, small and large intestines, with the associate glands, the liver, the spleen, and the pancreas. The function of these organs is, to prepare the food for the use of the body, by minutely comminuting it and fitting it for absorption into the blood. Diseases of the digestive organs affect this function, besides giving rise to other disturbance of the economy by sympathy, by deranging the circulation of the blood and nervous force, and by exhausting discharges.

#### ***DERANGEMENTS OF DENTITION.***

Dentition or teething is a physiological process, and not a disease, as many imagine. If the body is in a normal condition, and not warped to too great an extent by customs called civilized, then the process of cutting the deciduous teeth is painless and without unpleasant consequences. But if the converse, then the eruption of the teeth may be the source of irritation which will cause disease of various parts. We can readily see how this may be if we examine other parts: for instance, the func-

on of sight is performed with pleasure and advantage to the eye, if in a healthy condition; but if diseased, it is sometimes the source of great irritation.

Occasionally we find that the gums become very tender, or the child is continually working with its mouth, and desiring to bite something; it is irritable and fretful; there is some fever, increased heat of head, or sometimes pallor, and dilatation of the pupils. It is true, that many times these symptoms will pass off without danger to the child; but often they do not, giving rise to a low form of fever, disease of the brain and convulsions, or derangement of the bowels.

The *treatment* of this condition is comprised in a mild sedative as tincture of aconite, five drops, to water four ounces, in doses of a teaspoonful every hour or two; and if the child is nervous, and exhibits evidences of convulsion, the addition of tincture of gelseminum ten to twenty drops, for a child one year old. If the bowels are constipated, a dose of castor oil, or compound powder of jalap and senna in infusion is indicated, and the general bath and hot foot bath should not be neglected. If there is diarrhœa, it should not be suddenly checked, but the neutralizing cordial, or compound powder of rhubarb in infusion, administered until it produces one operation, and afterward in smaller doses; or the ipecac may be used with aconite.

### TOOTHACHE.

The teeth fulfill a very important place in digestion, grinding and comminuting the food, and thus fitting it for the action of the gastric and other fluids. If for no other reason than this, they should be well taken care of. But when they become diseased, they become the nucleus for unpleasant secretions, and their diseased action is extended to other parts of the system. Thus, I have had several cases in which the removal of decayed teeth and cleansing the mouth, was the principal means of curing long-continued and serious disease. If your teeth

are decaying, consult a competent dentist, and have them filled, removing all those that are of no further use for mastication.

*Toothache* is one of the most painful affections to which our bodies are subject, and as common as it is painful. It most generally arises from decayed teeth, though sometimes it is a deep-seated inflammation of the roots of a tooth. If the tooth is decayed, the pain may be frequently arrested by the use of oil of cloves, or other stimulant, applied on cotton. Tincture of aconite is another excellent remedy, as is also equal parts of alum and salt, or the chloroform liniment, No. 88. The last may also be applied to the face over the tooth, if there is tendency to neuralgia.

### SORE MOUTH.

There are many forms of inflammation of the mouth—from the simple form in which there is but slight redness and burning, to that in which extensive ulceration occurs, and destroys its structures, and sometimes the life of the sufferer.

In simple sore mouth it will be found red and inflamed, and the patient will complain of pain and scalding; very frequently some derangement of the stomach will be found associated with it. We usually give an infusion of compound powder of rhubarb to correct acidity and irritation of the stomach, and use a wash of an infusion of sage privet, or yellow-root, sweetened, adding a small portion of borax in the severer cases.

In ulcerated sore mouth the suffering is much greater, and frequently the appetite is impaired, and the breath and secretions from the mouth are foetid. In this case I would recommend a strong decoction of the wild indigo for a mouth wash, and that it be given internally in doses of a teaspoonful every hour or two, to a child four years old.



*NURSES' SORE MOUTH.*

Some years ago a sore mouth prevailed extensively among nursing females; of late it has become rare in this section, though in some parts of the country it is still prevalent. It usually commenced some days after confinement, but occasionally made its appearance in a mild form during the last period of gestation. It was frequently preceded by heart-burn, or pyrosis, sometimes during the entire progress of gestation. The first indications of it were a feeling of heat in the mouth, with slight tenderness, and increased secretion of saliva, which seemed to irritate the inflamed surface.

On examination the mouth would be found reddened, the mucous membrane tumefied, and where the disease had become severe, small vesicles terminating in ulceration would make their appearance; commencing on the lips or tongue, it would gradually pass back until it involved the entire mucous membrane, and in some cases extend to the pharynx, the œsophagus, and finally pass through the entire intestinal canal.

In these cases, as the disease advanced, it would produce marked irritation of the parts invaded, of the stomach and of the bowels, occasioning great prostration from arrest of digestion. It would sometimes last during the entire period of nursing, and only cease when the child was weaned.

TREATMENT.—To relieve irritation and arrest acidity of the stomach, I employed the compound powder of rhubarb in small doses, and gave the chlorate of potash, in doses of a teaspoonful of the saturated solution, every three or four hours. The iodide of potash, in doses of five grains every four hours, answered a good purpose in some cases, but in others it failed. Occasionally an infusion of equal parts of alnus, rumex and quercus rubra, administered internally, and also used as a wash,

would cure the disease when other means failed. The phytolacca, ten drops to four ounces of water, a teaspoonful every two hours, has proven a very good remedy, as has the collinsonia in the usual doses. Some practitioners used a solution of nitrate of silver, from twenty to forty grains to an ounce of water, and spoke highly of it. After trying various means, I finally discarded all mouth washes, using the general treatment above named, and recommending the smoking of tobacco three or four times a day. This, though an unpleasant treatment, was uniformly successful, the disease in some cases being radically cured, but in others requiring a resort to the remedy every few days or weeks.

#### DYSPEPSIA.

Under this head we may group the entire class of functional disorders of the stomach, which are primary in their origin, and not dependent upon structural change.

Difficult or imperfect digestion, is one of the most frequent ailments we meet with in practice, and require great discrimination for its successful treatment. This will be more apparent if we notice those conditions that are necessary to healthy digestion. They are: 1st, A proper quantity and quality of ingesta; 2d, Thorough mastication and insalivation; 3d, Normal action of the muscular coat of the stomach, giving the food proper motion; 4th, A proper quantity and quality of the gastric juice, and of the pancreatic and biliary fluids; 5th, Normal innervation, and healthy condition of the blood; and 6th, A reciprocal action of the intestinal canal. Dyspepsia may be the result of a failure of any of these conditions, or a partial failure of two or more of them, so that very different causes may give rise to a similar result.

Habershon classifies the causes of dyspepsia, as: "1. From abnormal condition of the mucous membrane a

its secretion; 2d, From the muscular movements being impeded; 3d, From the state of the vascular supply; 4th, From the condition of the nervous system; and lastly, From the character and changes that take place in the food. Several of these causes of dyspepsia may be combined; some lead to disease of a very transient form, others are irremediable."

The mucous membrane may be affected in various ways. Thus, we may have atrophy, especially of the follicles, the change at last becoming so great that digestion can not be accomplished, and the patient necessarily dying of marasmus.

Again, we find other cases in which there is undue activity of the mucous glands, and of course deficient action of the gastric follicles; hence we have two conditions, either of which, if considerable, would materially interfere with digestion. This condition is frequently observed associated with chronic disease, as in anæmia, chlorosis, chronic bronchitis, and other chronic affections of the mucous membranes. As an independent affection, the symptoms are a feeling of weight and tension in the epigastric region; a bad taste in the mouth; fœtid breath; occasional nausea; sometimes vomiting, when considerable quantities of vitiated mucus may be raised; a heavily loaded tongue, especially at the base, and in the early part of the day; sometimes there is a disgust for food, and for several hours after it is taken, there are unpleasant eructations; at others the appetite is craving, but the patient feels uncomfortable after eating. The bowels are usually constipated, but there are occasional attacks of diarrhœa, in consequence of imperfect digestion of the food.

The reverse of this condition may exist. There is scanty mucous secretion, with normal or slight excess of gastric juice, the result being a continued irritation of the stomach, from want of its natural protection. In these cases we have heartburn, both after eating and when the



stomach is empty. There is a feeling of soreness and rawness when distended with food, and a disagreeable gnawing and feeling of contraction when it is empty. Digestion is not impaired to such an extent as it is found in some other cases, yet the symptoms are exceedingly unpleasant.

The gastric juice may be increased in quantity or deficient, or may be changed in quality, being too active, or not active enough. In the first instance, though normal in quality, the excess impairs digestion, and by its acrid properties irritates the stomach and causes pain and unpleasant sensations. It is this excess that gives rise to pyrosis or water-brash. It may be excessive simply by too great dilution; the excess may be at the period of digestion, or in the interval when the stomach is empty. In the first case, there are acid eructations with more or less of the partially digested food; the last is attended by severe heart-burn.

If deficient, the causes of imperfect digestion would seem to be evident, but this is not the case, for the deficiency may be only in one element, as of an acid, or of water, or of pepsin, or it may be deficient on account of the intense acidity of the secretion irritating the stomach and checking its formation. In these cases the symptoms are varied, but there is evidence of imperfect digestion and more or less unpleasant sensations at the epigastrium.

The secretion may be irregular, giving rise to a craving with pain at the stomach, cramp, heart-burn, etc., in the intervals between meals, and sometimes nausea and vomiting, or a burning sensation, and unpleasant eructations two or three hours after eating. This irregular secretion if it continues, causes great irritation, sometimes disorganization of the mucous membrane, and may cause its digestion if its innervation is enfeebled by injury or severe shock to the system. Impaired action of the muscular coat will undoubtedly derange the process of digestion, it depends, to a considerable extent, upon the continu-

ement and attrition of the food. The general symptoms are those common to the other forms of dyspepsia, but there is an absence of pain, and, in consequence, gaseous accumulations and uneasiness from distension.

The general sluggishness of the system, especially the torpor of the nervous system, and slow action of other organs, with obstinate constipation of the bowels, are additional indications. The reverse of this is productive of fully as serious consequences, as the food is forced through the pyloric orifice before stomachic digestion is complete. The result is diarrhœa, with imperfect nutrition, great loss of strength and flesh, and, if it continues, death from exhaustion.

Changes in the circulating fluid may give rise to dyspepsia, but they more frequently intensify it by preventing normal nutrition of the stomach. All have observed the intimate relation existing between the blood and the stomach in acute diseases; hence, in fever, though the appetite may demand food, yet digestion is slow and imperfect; though usually the appetite disappears with the power to digest. In many diseases in which the blood is loaded with impurities, we find that all means directed to the stomach are inefficient; we must first remove the detritus from the blood, and having secured a normal circulating fluid, though small in quantity, digestion can be again established. Torpidity of the bowels, and inactivity of the skin, doubtless affect the stomach in this way, in addition to the extension of the derangement by continuity of structure and sympathy.

The most common of these causes of dyspepsia, and one that should be carefully watched for in all these cases, is derangement of the urinary secretion; I have seen cases in which all other means having been exhausted, a treatment directed to restore this secretion, has radically cured the dyspepsia. That this is the fact, is proven conclusively, when we observe that in every derangement of



the kidney of any considerable duration, the function of the stomach is one of the first impaired.

Like all other functions, perfect digestion depends upon normal innervation; and in this case it is dependent upon the normal condition of three parts of the nervous system. The great sympathetic nerve seems to be the governing power in a state of health; the pneumo-gastric nerve is distributed to it to connect it with the heart, lungs and brain, and it is connected with the spinal cord by communicating filaments to the sympathetic ganglia. Disease of any of these sources of innervation may give rise to dyspepsia, and conversely, disease of the stomach may give rise to derangement of these different parts of the nervous system.

Derangement of innervation manifests itself in two principal forms—irritation and atony. The first, as we have already noted, may arise in and be confined to the stomach, or it may be the result of distant lesions. In the first place, we have irritation of the peripheral nerves, with determination of blood, derangement of secretion, and other results that follow. In the last, we have the same effects, but the cause is distant, as in irritation of the stomach from disease of the brain and spinal cord. The severest cases of irritation we ever witness, are from this cause, as in some cases of cholera infantum. We again see cases in which the irritability of the stomach depends upon disease of the spinal cord; and cases in which we are convinced that the lesion is one of the sympathetic nervous system, though we are unable to prove it.

Derangement of the stomach reacts on the nervous system, and organs supplied by the same system of nerves. Thus, we have hypochondriasis, hysteria, irritation of the spinal cord, cough, expectoration, and seeming disease of the lungs, palpitation and other disordered action of the heart, as its result.

The character of the ingesta is very important as an element of dyspepsia. Food may be taken in too large



r the quality may be such as to overburden the  
hence its continuance gives rise to imperfect  
ower. Abnormal changes taking place in the  
not properly be considered a cause of dyspep-  
ther a result, and yet serve to perpetuate it.  
be divided into putrefactive decomposition and  
ion of sulphureted hydrogen; simple fermenta-  
g rise to carbonic acid; fermentation forming  
butyric acids, and the formation of sarcenia

s.—The principal symptoms have been named  
dered each lesion, but we may reconsider them  
stage. Dyspepsia, as we before remarked, is  
ligestion, and from this we have feeble and  
nutrition, and the results that flow from it,  
ut to a greater or less extent of all the func-  
e body, and loss of flesh and strength. Un-  
nsations in the region of the stomach are  
sent in some degree, but vary as regards its  
pain, burning, sense of soreness, tension, full-  
it, tenderness on pressure, are the principal  
or the diagnostic bearing of them I would refer  
eding description.

NT.—As will be gathered from the lengthy de-  
the disease above given, the treatment of dys-  
have to be varied to meet the wants of each  
case. In some the treatment will be mainly di-  
e nervous system; in others the skin or kidneys  
ally at fault, and we will have to determine  
er of these diseases, and cure them, in order to  
e dyspepsia. It is only those, therefore, in  
disease is strictly confined to the stomach,  
e managed by an unprofessional person.

ases in which there is pain in the region of  
h, and tenderness on pressure, counter-irrita-  
of the most useful means. In simple cases  
d use of the mustard plaster will answer,

or we may direct a flannel bandage, wet with cider vinegar, to be continually worn, or used only at night. In the severer cases, the irritating plaster will be the most useful remedy.

If there is much irritation of the stomach, especially if attended with nausea, use the peach-tree bark tea. It is made by taking the young limbs of the present year's growth, scrape the bark off, and cover with boiling water; the dose will be from a tea-spoonful to a table-spoonful, four or five times a day, or oftener. There is no other agent with which I am acquainted that exerts a better influence upon the stomach than this, and I have known many persons radically cured by its use.

The collinsonia is another excellent remedy, and one I very frequently employ. Take equal parts of essential tincture of collinsonia and simple syrup, and give a tea-spoonful four or five times a day. The hydrastis, or yellow-root, is another excellent remedy. Add half an ounce of the finely-pulverized root to six ounces of water and two of alcohol; let it be well shaken, and taken in table-spoonful doses, three or four times a day.

In all cases strict attention should be paid to the skin, using a bath every day, or every other day, with brisk friction. The bowels must be kept regular, by strict attention to the periods for their action, using injections or mild cathartics if they should become necessary. The food should be carefully selected, and taken in moderate quantities, so as not to overwork the enfeebled stomach. Those articles which are found easy of digestion, and at the same time nutritious, are the best. This is one of the most important points in the treatment; for if the stomach is gorged with food three times a day, in quantities that it can not dispose of, we need not expect it to get well, any more than we would a sore on the surface, if we kept rubbing it or breaking it open.

**DISEASES OF THE LIVER.**

The liver has played so important a part in medicine for the last few hundred years, that it would look like sheer neglect to pass it by without a word; and yet we will find that its diseases are few in number, and of rare occurrence. Physiologists have hardly as yet determined the function of the liver, further than that nature seems to have made every provision for its taking care of itself.

In former years almost every disease was attributed to the liver. Did a man have a headache, his liver was inactive; if his mouth was foul, and stomach in bad condition, his liver was torpid, and needed stimulation; if he had wandering pains in his body; if he was nervous and irritable; if his food did not digest; if he had constipation or diarrhœa, fever, or imperfect circulation, it was all the same—the liver was deranged. If a person felt bad, and did not know what was the matter with him, especially if it continued for some time, all his friends would decide that he had *liver complaint*, and the doctors would ratify the decision. Some physicians never get further in the study of medicine than the liver; and no matter what the pain or ache, or what its location—the liver was affected. All the physical ailments seemed to spring from it, as from some foul spot—the gehenna of the human body.

It was a pleasing delusion for both doctor and patient, as there seemed such a certainty in it, and especially such certainty in the selection of medicines to remove it. The liver being affected, of course medicines must be taken to act on it; there was but one such medicine—mercury—hence it became applicable in all cases, and even the dull-est mind was capable of comprehending this much of the science of medicine.

A remarkable change, however, has come over the profession and the people in regard to this delusion, and it is



now well known that the liver plays a very unimportant part in the diseases of the body, and that what seemed such a pleasant practice has destroyed more victims than any war, pestilence or famine that ever prevailed.

*Inflammation of the liver* is of very rare occurrence, so rare that I do not think I have met with but one case in three years. The symptoms are similar to other forms of inflammation, pretty high fever of a remittent type, and deep seated pain in the right side under the false ribs. The pain is dull and obtuse, and is the characteristic symptom, though there are evidences of arrest of function in the constipation, and clay-colored stools, when obtained by medicine. The disease sometimes runs on to suppuration; inducing very marked prostration, with hectic fever and night sweats. The abscess may discharge externally, or into the bowels, and in some rare cases it passes through the diaphragm, and is discharged through the lungs. The treatment of inflammation of the liver will not differ from that proper for other inflammations, further than the local applications will be to the seat of the pain.

A condition of *chronic inflammation* or irritation of the liver was formerly of frequent occurrence, owing to the profuse use of *blue-pill* and *calomel*, but now it is rarely met with. The symptoms were those of deranged digestion, irritation or atony of the stomach, torpor of the bowels, pain in the right shoulder and back, headache, with sallow, yellowish skin, loss of appetite, etc. If I should meet with such a case now, I would use the alkaline bath thoroughly, stimulate the liver and bowels to action with the podophyllin pill, and give a tonic, as the collinsonia or hydrastis. If there was tenderness on pressure in the region of the liver, the irritating plaster would be an excellent remedy.

*Excessive action* of the liver occurs as the result of irritation, and congestion of blood. The bile being an irritant to the intestinal canal, will, if poured into it, give rise to

diarrhoea, the stools being yellowish, brown or green. In some cases bilious vomiting also occurs, and at times there is considerable pain in the bowels, like colic. If the bile is not poured into the intestinal canal, it will be absorbed and produce jaundice.

In these cases I would have the bowels freely evacuated with the compound powder of jalap, or similar remedy, and then give an infusion of the compound powder of rhubarb, with from one to three grains of opium at night. Bathe the patient thoroughly, use the hot foot bath, apply a mustard plaster to the side, and if necessary give a special sedative.

*Torpor of the liver* is of more frequent occurrence than any other functional derangement, and is probably due in a majority of cases to disease of adjacent parts of the intestinal canal. It is frequently associated with dyspepsia, and hence the prominent symptoms of that disease were formerly attributed to the liver.

The treatment recommended for dyspepsia will be appropriate for this disease, adding a sufficient quantity of podophyllin and leptandrin, to gently stimulate the liver to action.

*Gall-stones* are sometimes formed in the liver, or gall-bladder, and, passing thence to the intestine, they give rise to very severe pain. The pain usually comes on suddenly, in the right side; is sharp and lancinating, but in a few moments it passes off, leaving a dull, heavy aching. In a short time it comes on again, and continues longer, and the succeeding intervals of ease are very short. At last the paroxysm is so excruciating that the sufferer bends himself double, or rolls about the floor, at the same time pressing his hands against the pit of the stomach, which eases the pain. Thus it continues until the concretion has passed, which may be but a few minutes, or it may be hours.

The best treatment in this case is to put the patient in a hot bath, or use the hot blanket pack, giving some warm



diaphoretic infusion. If the pain is very severe, a full dose of opium may be given, or the patient put under the influence of chloroform.

### JAUNDICE.

**SYMPTOMS.**—The symptoms of jaundice vary very greatly, depending upon the cause, the extent of disease of the liver, and its complications. Usually, there is disturbance of the bowels, colicky pains, constipation, the fœces being clayey, pale, and scanty. The mouth is dry, has a bad taste, tongue coated, and sometimes nausea and pain in the head. The yellow tinge usually makes its appearance in the eyes, and gradually extends to all parts of the body, the color being deepest in the folds and wrinkles of the skin. Usually the skin is harsh and dry, and the urine high colored, at first yellowish, but afterward saffron-colored, frequently coloring the clothing that it comes in contact with.

In some cases febrile action is a marked feature of the affection, the fever being remittent or intermittent in its character, and attended with weight and tenderness in the right side, and marked derangement of the digestive functions. These cases are generally acute. In others it comes on slowly, with symptoms of marked cachexia and prostration. The skin changes its color very gradually, but at last, after weeks, or sometimes months, becomes of a yellowish-green or bronze color. In this case the disease will be found to depend on serious structural lesion of the liver. In others, the symptoms are developed with rapidity; the skin becomes intensely yellow, or yellowish-green; there is great prostration of strength, languor, listlessness, great depression of the nervous system, and finally delirium or coma, the disease frequently terminating fatally. Or, it may come on very slowly, the skin gradually gaining a dull yellowish tinge, the symptoms being those described under the head of deficient secre-



ion or torpor of the liver. In this case the jaundice is from retention of the materials of the bile in the blood.

**TREATMENT.**—As jaundice depends upon such diverse conditions, no course of treatment could be given that would correctly guide the inexperienced. The stimulant treatment of the liver, which would prove curative in one form, would greatly aggravate the disease in another. If, therefore, I was to recommend any course in this case, it would be to use the warm or vapor bath, and take internally a solution of acetate of potash, to stimulate the removal of the coloring matter by way of the kidneys. This is one of the most successful plans of treatment in all cases, and will not produce injury in any.

### DIARRHŒA.

Diarrhœa is frequently symptomatic of other affections, or indicative of disease of the small intestines, as in the case just noticed; but it is also, in many cases, an idiopathic disorder. We may divide it with advantage into the following forms: 1st, From irritation of the intestinal canal; 2d, From increased secretion of bile; 3d, From atony of the intestines; 4th, From congestion of the portal veins, and determination of blood; 5th, From increase of mucous secretion; and 6th, From imperfect digestion.

**SYMPTOMS.**—Diarrhœa, arising from *irritation*, may be caused by acrid and irritating ingesta, or result from exposure to cold, or from the arrest of other secretions. The operations are copious and feculent, sometimes preceded by griping pains, and occasionally attended with an urgent desire to go to stool. The tongue is usually loaded, an unpleasant sensation at the stomach, loss of appetite, and frequently a tendency to headache. As the diarrhœa continues the strength is materially affected, though there is no febrile action at any time.

Bilious diarrhœa results from hyper-secretion of bile,

and may arise from the causes named above. It is rather a common form of the disease in the summer, and in hot climates, and in intemperate persons. The evacuations are at first feculent, but green, or greenish-yellow, and pultaceous; but as the disease advances, are more profuse and watery. If it continues for some time, they frequently contain more or less mucus, sometimes in loose pieces, at others in thin, glairy, and gelatinous pieces. There is sometimes a feeling of tension in the right side, and soreness on pressure; and there is considerable griping pain attending and preceding the discharges from the bowels. The skin is dry and harsh in many cases, and the urinary secretion scanty and high-colored; the tongue coated, a bitter taste in the mouth, and loss of appetite, with sensations of nausea and disgust.

Atony of the intestinal mucous membrane gives rise to diarrhœa, by the relaxed vessels allowing their contents to escape. In all diseases attended with great loss of power, we have examples of such profluvia, as in asthenic bronchitis, the œdema of local debility, etc. In this case the operations are large and watery, or, in some cases, a watery mucosity, unattended with pain or suffering of any kind. The discharges pass so freely that the patient has sometimes but little notice to prepare for them, or they pass almost involuntarily. There is loss of appetite to some extent; the skin is cool, pale, soft, and relaxed, with perspiration; the urine light-colored and of low specific gravity. The debility is marked.

*Determination* to the intestines, accompanied by partial congestion, gives rise to a diarrhœa, attended by large and fluid evacuations. There is more or less soreness of the bowels and griping pains preceding the operations. The stools are of every shade of color, from pale clay to a greenish, or brown color, and are sometimes preceded by nausea. The skin is usually dry and harsh, the pulse hard, the tongue coated, the appetite gone, urine scanty,

me headache, with tumid bowels, and some pain or tenderness on pressure.

Increased mucous secretion gives rise to that form of diarrhœa termed catarrhal. It occurs more frequently in old persons and children, though it may affect all ages. The stools consist of mucus, with a small proportion of feculent matter, sometimes large, thin, and gelatinous, looking like semi-transparent mucilage; at others, thick and white, or colored by the feces. At first it gives rise to but little disturbance; but as it continues, the strength fails, the skin becomes dry and harsh, the appetite much impaired, with great loss of strength and emaciation.

Diarrhœa from imperfect digestion is known by the name of *lientery*; it is most frequently observed in children, and rarely in adults. It is undoubtedly owing to imperfect action of the stomach, and increased peristaltic action of the bowels. The evacuations consist in part of feces, and in part of food, which is discharged from the bowels in nearly the same condition in which it passed into the stomach. Sometimes there is pain attending the operations, but at others none, except a feeling of rawness and soreness of the rectum; if it continues, the patient soon exhibits the effects of arrest of digestion, in a marked marasmus, terminating in stupor and death by exhaustion. During the entire period the appetite is usually good, sometimes voracious, and there is no manifest lesion of any other function.

TREATMENT.—Common feculent diarrhœa frequently requires no treatment, as when the irritating matters are removed, it ceases itself. If, however, there is much griping, with colicky pains, and it is the result of eating green fruits, or other improper food, a mild cathartic, as the compound powder of jalap and senna, may be used to free the intestinal canal from irritant materials. In place of this, the compound powder of rhubarb (7), or syrup of rhubarb, may be used, giving it until the discharges assume the color of the medicine.



The simpler plan for family practice is to classify the cases in two kinds: diarrhœa with exhaustion, and diarrhœa with irritation and some febrile action. In the first case, the remedies will be nux vomica and ipecac, of each five drops to half a glass of water, a teaspoonful every hour. Nux is also the remedy where the diarrhœa is attended with colicky pains. The reader will not mistake the pain and urgent desire to go to stool, with the straining of dysentery, and in less degree in inflammation of the bowels, for the condition above described.

In the ordinary diarrhœa, from cold, over-exertion, and in many cases from indigestion, with somewhat irritable stools, some uneasiness in bowels, skin harsh, pulse a little frequent and hard, I would recommend the aconite and ipecac, five drops of the first to four ounces of water, a teaspoonful every hour. It may require a little patience to wait the action of the medicine, but the condition of the bowels and the digestive function is so much better after this treatment, that we can well afford to wait.

If the bowels are tumid, the tongue full, pallid and foul, I prefer minute doses of podophyllin with bismuth, as in the following prescription: *R* Podophyllin gr. j; Sub Nitrate of Bismuth,  $\mathfrak{z}$ i. Make ten powders and take one every two hours.

Acids have proven excellent remedies in diarrhœa, and some persistent cases are with difficulty cured without them. The cases are those in which there is deep redness of tongue. *R* Muriatic acid,  $\mathfrak{z}$ j; water, syrup, of each  $\mathfrak{z}$ j; a teaspoonful every two hours. In some cases the addition of ten grains of quinine to the mixture will be of advantage.

In atonic diarrhœa, with free watery discharges, the old treatment with tincture of kino, catechu. or compound tincture of cajeput (58) or capsicum will serve the purpose. An infusion of black pepper and salt will frequently do.

In mucous diarrhœa we sometimes find it advanta

reous to clear the bowels by a mild purgative; for this purpose, castor oil and turpentine, or the white liquid physic, or the compound powder of rhubarb, or leptandrin and jalap, with small doses of podophyllin, thoroughly triturated with loaf sugar, may be used. This should be accompanied by the hot foot-bath, and compound powder of ipecac and opium; and if there is any tenderness of the bowels, a sinapism, with hot fomentations, the hot sitz-bath, or the wet bandage; after the bowels are evacuated, the syrup of rhubarb and potash, with essential tincture leptandra, will usually be sufficient; if not, it may be alternated with one of the vegetable astringents. In some cases, the stomach being much deranged, it is advisable to commence the treatment with an emetic of ipecacuanha.

*Lienteric diarrhœa* should be treated by the use of the bath, with brisk friction, the vinegar bandage to the lower part of the trunk, or some stimulant embrocation; bland and easily-digested food, and exercise in the open air. Internally I use the hydrastin and leptandrin, with a solution of chlorate of potash and carbonate of ammonia. The white liquid physic will be found a good remedy, as will also the dilute nitric acid, with simple syrup. Quinia, with hydrastin, seems sometimes to answer an admirable purpose, and, with the mineral acids, is sufficient for the relief of the disease.

### CHOLERA MORBUS.

Cholera morbus is usually caused by acrid or irritating ingesta, or from long continued torpor of the intestinal canal, the secretions being thereby retained, or from sudden changes of temperature, or arrest of secretion in the warm months of the year. It usually comes on in the summer and autumn, and in some years more than in others.

**Symptoms.**—It usually makes its appearance with pain

the extremities. With the full development of the disease, spasmodic action of the muscles, or cramps, would come on, usually at first in the lower extremities, but at last affecting all parts.

The muscles would contract into hard, rigid knots, the patient suffering excruciating pain, which was best relieved by compression and brisk friction. A marked change was now noticed in the appearance of the patient; he seemed to have lost flesh as much as he would in two or three weeks' sickness; the eyes were sunk in the head, the countenance pinched and contracted and of a ghastly white color, the lips and mouth of a leaden purplish hue. The disease continuing, it soon passes into the stage of collapse, the entire surface being cold and covered with a clammy perspiration, a remarkably cadaverous appearance of the countenance, and a shrunk and shriveled skin. The pulse at the wrist is very feeble, and seems very much like drops of water trickling under the finger, and at last is not perceptible. The discharges from the bowels are now involuntary, consisting of simple water, with the whitish flocculi heretofore named. The cramps still continue, frequently with increased severity. Sometimes the patient's mind wanders, but at others it is clear and composed to the last.

The disease is of variable duration, sometimes terminating fatally in an hour or two, most generally within twenty-four hours, though in some rare cases it lasts two or three days. If it terminates favorably, we find that much care is necessary during convalescence, as the bowels are so feeble, and there has been such a severe shock to the system. A low grade of fever not unfrequently sets in after it, continuing several days, and requiring careful management.

TREATMENT.—The treatment I adopt in a case of cholera is such as will support the flagging powers of life, by strong stimulation. It may not be successful in all cases, but I feel satisfied that it will be attended by as good results as



other. If there is irritability of the stomach, with continued vomiting, so that remedies will not remain upon the stomach, I administer an emetic of the compound tincture of lobelia, or of salt and mustard. In a majority of cases, however, we have nothing better to settle the stomach than the compound tincture of cajeput, or Hunn's Peppermint Drops. It should be administered in doses of a tea-spoonful every five or ten minutes, until the vomiting ceases, and there is returning warmth to the extremities, and feeling of heat when the medicine is taken, when it may be given less frequently. To aid its action, I directannel cloths, wrung out of hot mustard and water, to be applied over the entire abdomen, or, if this seems impossible, we may use strong salt water cold, or equal parts of turpentine and tincture of camphor. If the case was approaching collapse, I should wrap the patient in a blanket, wrung out of mustard and water, as hot as could be borne, or, if there were no facilities for getting this, I would use the cold wet sheet pack, the water being pretty strongly impregnated with salt. One application, I am satisfied, is as serviceable as the other; in fact, I should prefer the last, if it were not so unpleasant, and objected to by the friends.

The cramps are an exceedingly troublesome feature of the disease, and are best removed by friction with dry mustard. This is also recommended to bring the circulation back to the surface, but without the slightest effect, until the internal remedies commence to affect the system. The compound tincture of cajeput is much the best local application, if it were not so costly.

The treatment named above seems very meager, and yet it is the best that could be selected in an emergency like this. Other remedies possessing similar properties might be substituted for the compound tincture of cajeput, but I doubt their being equal, if as good. Those that seemed to exert the best influence were the tincture of xanthoxylum, aromatic tincture of guaiacum, and camphor

**CHOLERA INFANTUM.**

Cholera infantum, or *summer complaint*, is a disease of very frequent occurrence, and one of the most difficult that we are called to treat. It occurs usually during the second summer, or the period of first dentition, but may come on as early as the age of six or eight months, or as late as the third or fourth year. It is difficult to determine why at this time the child should be so susceptible to gastro-intestinal irritation.

Many have urged dentition as the cause, but as that is a physiological process, except when disturbed, we would expect to find the disease only in cases of dental irritation, whereas we find it in children who have no teeth, who are not cutting teeth at the time the disease commences, who have all their deciduous teeth, except the four last molars, or who show no swelling, tenderness or irritation of the gums. We would rather conclude that at this period there is a change in system consequent upon the change in the food of the child, and its being no longer dependent upon its mother for sustenance. If the child is of vigorous parents, robust and healthy, this change is effected without disease, but if of feeble vitality, cholera infantum is almost sure to result.

It occurs during the summer, usually making its appearance in June and July, and in the severer cases lasting until frost and cool nights in the fall. A continuous high temperature has much to do in bringing it on, and it is more frequent in seasons in which this is the case. As the weather becomes cool in the fall it is mitigated, and with the appearance of frost it ceases, though we find that the sudden changes to cold during the summer are rather injurious than otherwise.

Cholera infantum usually makes its appearance at first as a simple diarrhoea, which gives little uneasiness and seems not to affect the health of the little patient. After continuing thus for a week or two, it is noticed that the

is becoming very thin in flesh, its appetite is impaired, it is very thirsty, and when the stomach is overdistended there is nausea and vomiting. As the disease progresses, the desire for drink becomes more craving, the evacuations from the bowels more frequent, and the little patient wasted to a mere skeleton of its former self. The evacuations from the bowels vary much in character in different cases, and even in the same case at different times. Sometimes they are yellowish, with more or less stringy mucus mixed with them, showing disease of the mucous membranes; at others they are greenish, and have a sour smell; at others, clayey; again, almost white, and rarely a chocolate-brown or black.

In febrile cholera infantum the skin is harsh, dry and contracted, in some cases seeming to be drawn upon the patient like parchment. There is great irritability of the nervous system, the patient being restless and uneasy, never satisfied, always changing its position, wanting everything, satisfied with nothing, and especially restless and wakeful at night. The child seems to be worse in the latter part of the day and evening, and frequently every other day. When the disease becomes very severe, it is almost impossible to keep the child in bed at night, the bed seems to torture it, and it is only satisfied when laid where it can turn freely about, or when carried from place to place.

In the non-febrile form, the skin is soft, relaxed and flabby, the extremities cool, the bowels distended or pendulous, the tongue broad, flabby and coated, and the pulse full, soft and fluent. The child is not so restless as in the preceding case, seems stupid and dull when nursed or in a comfortable position, but wants its own way. In both forms the appetite is alike impaired, there is the same nausea, the same desire for drink, and the same prostration of strength.

They sometimes find the brain seemingly affected in these cases, when there is a continued moving of the head from



side to side, the child sleeping with its eyes partly open, and rolling the eyeballs upward. If the pupils are somewhat dilated and do not contract freely upon exposure to light, I am satisfied there is congestion with effusion, and consider the patient's prospects very poor. Occasionally determination to the brain sets in, the head is hot, there is throbbing of the carotid arteries, contraction of the pupil, and intense restlessness and uneasiness.

TREATMENT.—The first thing to be accomplished in the treatment of cholera infantum is to quiet the irritation of the stomach. For this purpose I would strongly recommend the peach-tree bark tea, heretofore spoken of. Take the young sprouts, and scrape the bark off until a sufficient quantity is obtained, cover it with boiling water, and when cold it will be ready for use. Give it to the child in doses of half a teaspoonful every half hour, or a teaspoonful every hour. If this does not answer the purpose, employ an infusion of the compound powder of rhubarb, No. 7, using it the same way. The neutralizing cordial will sometimes answer the same purpose, at others I use chloroform one drachm to simple syrup two ounces, ten drops every hour. Sub-nitrate of bismuth thirty grains to spearmint water two ounces, in teaspoonful doses, is sometimes very good.

With the arrest of the sickness of the stomach the worst difficulty is over, for though we may not control the diarrhœa at once, we will have placed our patient in such a condition as to give us time. In many cases the administration of an infusion of the compound powder of rhubarb in teaspoonful doses every hour, until it changes the character of the evacuations, rendering them dark like the medicine, and then in less frequent doses, answers a good purpose. Undoubtedly, however, the best treatment for the average case is the administration of aconite and ipecac in small doses. I usually add two or three drops of the first and five drops of the second to half a glass of water, and give in teaspoonful doses every hour.

partly relieved, and then less frequently. It quiets on of the nervous system, relieves the stomach, slowly brings the bowels back to a normal condition. Ice and care are necessary. The physician or pathologist who gets in a hurry to arrest the disease, may kill the child.

If the nausea and vomiting are very severe and persistent, we may use the Nux to give relief. One or two grains are added to half a glass of water, giving a half spoonful, or less, every thirty minutes. When the child is pale and exhausted, the tissues full and flabby, I give the nux with the ipecac, in the doses named above. In many cases great benefit is derived from rubbing the child twice daily with quinine and lard.

Bath is an important agency in the treatment; it may be used cold, tepid or warm, according to the indication, and may be medicated by the addition of salt, bicarbonate of potash, capsicum, or a decoction of bitter herbs. The food will vary in different cases. If the mother nurses, it may be restricted to the mother's milk, or if she disagrees, cow's milk will sometimes be appropriate. In other cases, farina, sago, etc., seem to answer best; frequently I have seen the best results from gratifying the child's appetite for meat, especially fat bacon, ham, beef, beef suet, etc.; fatty matters, when they agree with the stomach, answer an admirable purpose. Stimulants may be employed, as the brandy with epilobium, which is referred to, but the best is undoubtedly Catawba which sometimes seems to act as both food and stimulant.

### COLIC.

The general features of colic are griping pains in the abdomen of a more or less constant character, constipation and absence of inflammatory or febrile symptoms. It may be dependent on various causes, as acrid ingesta, morbid secretions, gaseous accumulations, spasmodic

contraction of the muscular coat from irritation of the sympathetic and spinal nervous systems, structural disease of the intestinal canal, and disease of the blood.

**SYMPTOMS.**—The *common* form of colic is produced most frequently from irritating ingesta, or acrid secretions. It commences with a severe griping pain in the region of the umbilicus, though somewhat wandering in its character, changing its position from one side to the other, and from above to the lower portions of the abdomen. It is not constant, but remittent, giving the patient a moment's ease, then recurring with increased severity. In some cases it seems to be confined to the stomach, as if it was contracted upon itself, (cramps of the stomach,) but more frequently involving the entire intestinal canal.

There is no tenderness on pressure, but frequently relief is afforded by it; the skin is cool, the pulse regular and not increased in frequency, and there are no symptoms of febrile action. The bowels are usually constipated, though if produced by irritant ingesta, there may be watery evacuations from the bowels.

It generally lasts but a few hours, though if not properly treated, it sometimes becomes very severe.

**TREATMENT.**—The treatment is simple. If the pain is confined principally to the stomach, or upper portion of the abdomen, and we have the evidence that the patient has been lately eating unripe fruit or other articles difficult of digestion, we would immediately give an emetic. Thirty grains of ipecacuanha in warm water, will answer the purpose admirably, or we may use a teaspoonful of mustard in half a tumblerful of warm water, or give an infusion of compound powder of lobelia. In other cases, the most effectual and quickest remedy is the compound powder of jalap and senna, in doses of ten grains every hour, until the pain is relieved; or, if the patient objects to taking it by the mouth, two drachms mixed with warm water, and used as an enema, will answer purpose admirably. In lieu of this, five drops of



able restlessness and uneasiness. Pressure over the colon will usually detect a soreness in some part of its course.

Most generally, in this form of the disease, the upper bowels are obstinately constipated, as the discharges consist entirely of mucus, mucus and blood, or almost pure blood. Sometimes, however, it assumes the character of dysenteric-diarrhœa, the operations having more or less feculent material mixed with them, or the dysenteric discharges being alternated with diarrhœal. Day by day we observe the disease becoming severer, unless controlled by appropriate treatment, until at last the patient is very much reduced, the symptoms assuming the character of those of the epidemic form of the disease.

Epidemic dysentery occurs in two principal forms, though there are various gradations: these are, cases with obstinate constipation of the small intestines, with an active grade of fever, and cases where there is an irritability of the entire intestinal tract, with a low or asthenic fever.

In the first form, the disease almost always commences with a well-marked rigor or chill, followed by high febrile action. The discharges from the bowels soon become frequent, are preceded and attended by tormina, the pains being of a severe cutting character. The tenesmus, or desire to evacuate the bowels, is almost constant, and is very distressing during the operation—it seeming to the patient that the desire for an evacuation would never cease. No rest can be obtained during this condition, and as a natural consequence the patient is very fretful and uneasy. The discharges from the bowels are sometimes pure mucus, at others mucus mixed with blood, and again seemingly almost pure blood, in each case the material being unchanged, not dirty or discoloured as in the next form of the disease.

As it continues, we find that day by day the disease becomes seemingly more severe. The fever is remittent or continued, and very severe, the skin being dry and parched, the pulse hard and frequent, pain in the head

very frequent, in small quantity, and tenesmus, and glairy or serous, and dark blood. The urine is scanty and colored. About the fourth or sixth day, eruption or petechiæ sometimes appear on the breast, arms, and abdomen; and diarrhoea occurs, between the fourth and eighth day, in robust subjects, but without benefit. The tenacity of the tormina and tenesmus increases with the progress of the disease. On the ninth or eleventh day, is replaced by hæmorrhœa. The stupor is now attended with soft solids waste and become greenish; it assumes a dirty hue, and an offensive odor issues from the body and evacuated. The pulse is rapid or arrested in its progress, and fatally terminates from the eighth to the thirteenth day.

Many of these symptoms make up the last stages of epidemic dysentery, which may run their course as just described, or may be much more malignant. By the seventh day, the countenance is sunk, and

lasting in this condition longer than it would seem possible, finally sinks.

**TREATMENT.**—As heretofore remarked, the simplest treatment for disease is likely to be the best, and this is most assuredly the case here. The disease is sufficiently unpleasant, without the addition of cathartics and other unpleasant medicines. In the common sporadic dysentery I would trust my patient upon aconite and ipecac alone, and even very severe cases progress favorably with nothing else. Add five drops of the first, and ten or fifteen drops of the second, to half a glass of water, and give a teaspoonful every hour. In some cases the use of minute doses of tincture of colocynth, three to five drops to half a glass of water, a teaspoonful every hour, speedily gives relief.

If forced to employ cathartics, I should prefer the "white liquid physic," composed of sulphate of soda eight ounces, water one and a half pints, and nitric and muriatic acids, equal parts, half an ounce. This may be given in doses of a tablespoonful every hour until it operates gently, and then in teaspoonful doses. In place of this, small powders (ten grains) of sulphate of magnesia may be given, with ipecac.

Epidemic dysentery requires careful treatment, as we not only have a severe local inflammation, but a zymotic fever as well. Even in this case the aconite and ipecac serve an excellent purpose, and with the proper antiseptic, and small doses of quinine, is about as successful a treatment as can be adopted.

In the severe typhoid dysentery, the baptisia has proven a very valuable remedy. We add five or ten drops to half a glass of water, and give a teaspoonful every one or two hours, alternated with the aconite and ipecac. Muriatic acid is given if the tongue is deep red. The quinine is used as a nervous stimulant, in doses of half to one grain every three hours.

If the discharges are very fetid, the salicylic acid may



be given in doses of half a grain every three hours; and it may also be used as an injection, half a drachm being solved in a pint of water by the aid of phosphate of soda. Instead of this, injections of weak chlorinated soda answer a good purpose. Careful nursing is always an important part of the treatment.

To arrest the pain and constant desire to evacuate the bowels, let the patient sit in a tub of water, as warm as can be borne, and repeat it as often as necessary. In addition use an injection of two tablespoonfuls of starch-water and half a teaspoonful of laudanum after each motion.

### WORMS.

Intestinal worms are of very common occurrence, in fact there is hardly a person but what has had more or less of them at some period of his life. In some sections of country every person has worms, while in others they are comparatively rare. They are produced in the intestine by the swallowing of their eggs or grub, which are exceedingly minute, and generated in very large numbers. Thus, in the case of the tape-worm, naturalists have traced its development from the *cysticercus* of the hog, which being introduced into the intestinal canal, becomes developed into a fully formed worm. Each joint of this worm contains a large number of eggs, which, being discharged with the intestinal contents, is eaten by the hog, developed into a *cysticercus*, which may in turn form a tape-worm.

The principal varieties of intestinal worms, are, the long round worm, *ascaris lumbricoides*—the small thread worm, *ascaris vermicularis*—the long thread worm, *tricocephalus dispar*, and the tape-worm, *tenia*. The long, round worm, inhabits the small intestines, sometimes passing up into the stomach or down into the large intestine. It varies in length from five to eighteen inches, and sometimes is fully half an inch in diameter. The small thread worm is principally found at the lower part of the bowel, and is usually not more than half an inch in

parts of *pink root and senna*. Worm-seed oil, with castor-oil, is the basis of nearly all the patent vermifuges, but its nauseous taste renders it objectionable. A preparation of Santonin, ten grains, podophyllin one grain, rubbed up with sugar and divided into twenty powders, is an excellent remedy; one may be given morning and night. This remedy is frequently combined with sugar to form a candy, and is the principal constituent of all the worm lozenges.

The small thread worm is easily got rid of. I direct an injection of a teaspoonful of salt to a teacupful of cold water, as an injection, once a day, and in four or five days the person is entirely free from them.

Various remedies are used for the removal of the tape-worm. The most simple one is, to make an emulsion of four ounces of pumpkin seed, first removing the shells, and take it on an empty stomach in the morning. Nothing should be eaten during the day, and if it does not operate, it may be worked off with a cathartic. The male fern is another excellent agent, and is usually employed in the form of fluid extract, the dose being from one or two teaspoonfuls. The pomegranate bark has proven the most reliable remedy for tape-worm. Six ounces are infused in a pint of boiling water, and taken on an empty stomach in the morning. If it does not prove cathartic, a sufficient quantity of compound powder of jalap and senna should follow it.

But worm medicines are not required often, and more harm than good has resulted from their use. Let them be given only when they seem to be clearly necessary.

#### DISEASES OF THE URINARY ORGANS.

The secretion of urine is one of the most important of the functions of the body, as it is through this channel that the greater portion of the nitrogenized waste of the tissues gets out of the system. Waste or destruction of

they exert the same influence that would follow  
ption of a narcotic poison.

### **INFLAMMATION OF THE KIDNEYS.**

inflammation of the kidneys is not of frequent  
ce, as they are situated so deeply, and so well  
l, as not to suffer from cold or atmospheric  
or from injury, and their circulation is so direct  
that they are not as easily affected by derange-  
the general circulation as other parts. When it  
ur, it is produced by the usual causes giving rise  
imation, as cold, injuries, local irritation, the con-  
f the blood, the sudden arrest of accustomed  
es, too long retention of urine, the extension of  
ation from the lower parts of the urinary appa-  
c. Usually but one organ is affected, but in some  
th are involved at one time, rendering the disease  
ious.

oms.—Inflammation of the kidney usually com-  
with a well marked rigor, though sometimes but  
illy sensations precede the fever. The febrile ac-  
not high at first, but frequently becomes very in-  
the course of two or three days. With the ap-



urine, at first but little changed, is now small in quantity, passed with difficulty, and of a dark-red or reddish-brown color, and frequently tinged with blood. If both kidneys are affected, the urine will be very scanty and high colored, and passed with difficulty. In a later stage of the disease, if the calyces and pelvis of the kidney are affected, we will observe more or less mucus or muco-pus in the urine.

The constitutional disturbance becomes marked by the second day. There is frequently nausea and vomiting, especially when anything in the slightest degree nauseous or irritant is taken upon the stomach; the bowels are obstinately constipated, and acted on with difficulty; the skin dry and harsh, the pulse hard and frequent, and at first great irritation, restlessness and entire inability to sleep; but if the secretion becomes markedly scant, as from disease of both kidneys, coma or low muttering delirium sooner or later makes its appearance. If but one kidney is involved, we will find if the disease progresses, without being controlled by treatment, that the fever assumes a typhoid or asthenic character by the seventh or tenth day, with dark furred tongue, sordes on the teeth, typhomania, etc. If both kidneys are affected, the disease will terminate fatally before this, if not arrested by medicine.

**TREATMENT.**—Prompt treatment is necessary in this case, especially if both kidneys are involved in the disease. I should administer immediately a full dose of compound powder of jalap and senna, and bi-tartrate of potash, in equal parts, and if there were great nausea, I would pre-mise with an emetic. We use the cathartic as a most efficient means of derivation, to lessen the quantity of the circulating fluid, and to remedy in part the influence of defective secretion of urine. The special sedatives should also be employed as heretofore recommended, with the addition of full doses of gelseminum, which seems to have a direct action upon these organs. I should use it in doses

sensation of nausea and debility. As the amount of urine decreases, there will be first irritation of the nervous system, followed by stupor and coma, and if there is entire arrest, in a few hours by death.

TREATMENT.—In this case I would advise the application of hot fomentations over the loins; or, instead of this, in some cases, the hot sitz bath. If there is nothing to contraindicate it, open the bowels with compound powder of jalap, or other cathartic, and then give a mild diuretic. The specific remedy in this is apis; add ten drops to half a glass of water, and give a teaspoonful every hour.

### RETENTION OF URINE.

In this case the urine is secreted, but is retained in the bladder on account of inability to pass it, either from loss of power in the bladder, or stricture of the urethra. If the patient is conscious, he will complain of a sense of fullness and distention in the region of the bladder, with a desire to void urine, but inability to do so.

TREATMENT.—In many cases hot applications over the bladder will give relief; sometimes we use the hot sitz bath, and in others we direct that the patient sit over a hot decoction of bitter herbs. An injection into the bowels of a teaspoonful of laudanum to half teacupful of warm water, will sometimes give speedy relief. In addition to this, give the apis as for suppression, though it is better to send for a physician if the means above named are not successful.

### DIABETES.

By diabetes we understand a condition in which there is an excess of urine passed. It is divided into two varieties, *diabetes insipidus* and *diabetes mellitus*. In the first the urine is clear, of low specific gravity, and tasteless.

the second, it is of high specific gravity, and sweet to the taste. The first is not a very serious affection, though sometimes hard to manage; while the second is one of the most grave affections to which the human body is subject. I will give the symptoms of the two, but consider it useless to give the treatment, as it will have to be conducted by an experienced practitioner.

**SYMPTOMS.**—*Diabetes insipidus* may come on slowly and gradually, or its advent may be sudden. The patient's attention is directed first to the increased frequency of the desire to micturate, and especially by having to get up at night to relieve the bladder; then, that the urine is passed in large quantities at a time, and that it is very clear. At the same time he feels a sense of lassitude and languor, a pain in the back, and considerable thirst; the appetite is somewhat impaired, digestion imperfect, the skin becomes dry and doughy, or dry and constricted. These symptoms may make their appearance so as to be marked in a few days, or they may be months in their development. Continuing, it may result in diabetes mellitus, or, enfeebling the system, predispose to severe cachectic actions.

*Diabetes mellitus* may come on slowly or rapidly. In the former cases months will have passed before the patient feels his condition so serious as to demand the assistance of a physician; but in a majority, from four to eight weeks is sufficient for the full development of the affection. It comes on insidiously, without a pain or an ache, and without any symptom that could be called disagreeable. The patient notices that he is losing flesh and strength every day, and is becoming so feeble that it is with difficulty that he is able to attend to his business, and at the same time that he eats nearly as much as usual. His attention is called to the frequent calls to pass water, and especially that he has to rise during the night, and that the amount of urine voided in the morning is very large. These symptoms continue to increase until the patient becomes very



feeble and thin in flesh, and is scarcely able to get about, being confined to the room the greater portion of the time—and still there is no suffering. The thirst is usually a very marked symptom, the patient having an almost constant desire for, and drinking large quantities of fluids.

As the disease progresses toward a fatal termination, we observe hectic fever in the afternoon, with night-sweats. The thirst still continues, and is frequently intense; but the appetite is much impaired and capricious. Sometimes phthisis sets in and runs its course rapidly; at others the patient is seized with a colliquative diarrhoea; and at others the kidneys fail to remove the necessary amount of urea, and the patient dies of uræmic coma.

#### ***BRIGHT'S DISEASE OF THE KIDNEYS.***

This, also, is one of the most serious affections to which the human body is liable. It may occur at any age, but is most frequent in the young adult—say between the ages of fifteen and thirty-five years. It consists of granular degeneration of the secreting structure of the kidney, until at last it is entirely changed into a granular mass. One or both kidneys may be involved at a time; if but one, the disease will progress slowly; if both, it runs rapidly to a fatal termination.

In this disease albumen is passed with the urine, this being the characteristic feature. To determine the presence of this ingredient in the urine, put a small portion in a tin vessel and boil it; if albumen is present it will coagulate, and cause the urine to be cloudy. Then take a second portion, and add a few drops of nitric acid, and the same cloudiness will be observed.

**SYMPTOMS.**—There are no marked symptoms in the early stage of the disease to arrest the attention of the patient or the physician. It is noticed that the patient is gradually losing flesh and strength, and has a cachectic

pearance. The skin is dry and somewhat harsh, and patient does not perspire on active exertion as usual. The bowels are constipated, or in some cases irregular, the *rhœa* alternating with constipation; the appetite is variable, and there are more or less dyspeptic symptoms and headache. These symptoms and loss of strength at last becoming so marked, cause the patient to consult a physician, it may be months, or sometimes two or three years from the commencement of the indisposition. On close questioning, we will find that the patient has a stiffness of the back, probably a sense of fullness in the loins, and his attention has been drawn to slight difficulty in passing urine, and some alterations in its physical properties.

As the disease progresses the patient becomes very debile and cachectic, and frequently dropsical. The appetite is poor; digestion is feeble; the circulation weak; there is great emaciation; hectic fever appears in the evening, followed by night sweats; the patient dying of gradual *paralysis*, or some other affection that is set up owing to the debilitated condition of the system; or *uræmia* occurs, and carries the patient off in a very short time. Occasionally, in the later stages, the urine is scanty and but slightly albuminous, so that there is some difficulty in determining the cause of the constitutional disturbance.

#### INCONTINENCE OF URINE.

Incontinence of urine should properly be considered after diseases of the bladder, but as we have just noticed *retention*, we may notice it here. Though not a very frequent affection, it is yet met with sufficiently often, and the symptoms are so disagreeable, as to merit careful study. It is of more frequent occurrence during childhood, and may be in these cases attributed to atony of the muscular fibers closing the neck of the bladder, or to an irritation of the nervous fibrillæ distributed to the mucous membrane of the bladder, which prevents normal distension

of that organ. In the adult it is frequently the result of injury, as in cases occurring after labor, or in consequence of long-continued disease of the urethra or bladder.

**SYMPTOMS.** — The symptoms of the affection vary in different cases; some being able to partially retain the urine, while others have no control over it at all. In the worst cases it continually dribbles away as it is passed into the bladder, the patient being unable to retain it. As the result of this state of affairs we find that the person is rendered filthy, and is debarred society on account of the disgusting urinary odor that he can not get rid of. There is also more or less irritation of the genital organs, and of the adjacent integument, sometimes very severe, resulting in deep foul-looking ulcers. In other cases, it is retained to the amount of a few drachms, and then commences to dribble away, unless the patient has an opportunity to void it. In other cases, the bladder being irritable, it is forcibly expelled, after having accumulated to a certain extent, the patient having no power to resist its expulsion. Incontinence of urine at night is a troublesome affection among children, and even the physician is frequently consulted about it; but, unlike the other, it usually arises from an irritability of the bladder, which, assuming control when the will is in abeyance, as during sleep, causes the discharge.

It is not necessary to specify remedies in this case, as they are of such a character that they could not be used with safety in domestic practice. In many cases the disease can be radically cured, in others it can not, but if it can not, there are appliances that will obviate the disagreeable consequences above named, and permit the sufferers to enjoy life like other persons.

#### *INFLAMMATION OF THE BLADDER.*

Acute inflammation of the urinary bladder is not of frequent occurrence. It is usually caused by injuries, or from irritating diuretics or injections, or from disease of



**DISEASES OF THE NERVOUS SYSTEM.**

The nervous system, as we have seen when considering its physiology, controls the entire body, though the proper performance of its function depends upon a proper quantity and quality of the blood. The brain is the organ of the mind, and furnishes the force by which a very large portion of the body is brought under the influence of the will. The upper portion of the brain is especially the organ of thought, and rather detracts than adds to the vitality of the person. The lower portion, or base of the brain, is associated in action with the spinal cord, and is eminently a vital part, the tenacity of life and power of living depending, to a very considerable extent, upon its development and perfect condition. While so serious an injury as the removal of a considerable portion of the front lobes of the brain may be recovered from, the slightest injury of the base of the brain or spinal cord will cause death.

**INFLAMMATION OF THE BRAIN.**

The brain and its membranes, occupying the cavity of the cranium, is subject to inflammation like all other structures. The disease may attack and be confined to the membranes of the brain, *cerebral meningitis*, or it may affect the substance of the brain itself—*cerebritis*; but very generally affects both to some extent. As it is impossible to decide during life whether the membranes or the substance of the brain is the seat of the disease, there is little use in trying to draw a distinction between the two. Phrenitis may be caused by cold, and other causes tending to produce irritation of the brain, the state of the blood, and by injuries. It is almost always acute; in fact, I doubt if we are able to recognize a chronic inflammation of this organ, unless it may be of the meninges, producing chronic hydrocephalus.

**SYMPTOMS.**—The invasion of the disease is indicated by

sense of fullness and pain in the head, the integuments being suffused, and sometimes a marked sense of heat. Frequently the patient complains of dullness, with confusion of ideas, and forgetfulness, and unquiet sleep. Extreme irritability and fretfulness, with indisposition to sleep, and frequent startings during rest, the cry being sharp and quick, as if terrified, are the precursory symptoms in children. The disease is usually ushered in with a marked rigor or chill, continuing for an hour or two, or sometimes for nearly a day. Following this, there is in most cases high febrile reaction, the skin is hot and flushed, the pulse frequent and hard, tongue coated white, bowels constipated, and urine scanty and high-colored. The head is turgid and hot, the eyes more prominent and suffused, the pupils contracted and fixed, and a deep-seated, heavy, pulsating, and tensive pain in the head.

As the disease progresses, the patient becomes more irritable and restless, the pain in the head increases, there is intolerance of light, ringing in the ears, and intolerance of sound, sleeplessness and delirium. Up to the third or fourth day the fever is usually continuous, though sometimes there is a slight remission in the forenoon, and the head symptoms increase or continue without abatement. A marked change is now observed, the acute sensibility gives way to torpor, and the delirium becomes low and muttering, or is replaced by coma. The pulse becomes fuller, softer or slow, or in some cases very hard and frequent. The head and trunk are still hot, the face turgid and of a deeper color, or in some cases blanched and contracted, the pupils dilated, the extremities cool, respiration difficult and sometimes stertorous, and more or less involuntary movement and starting of the tendons. The coma gradually becomes deeper, and the insensibility more marked; all the functions are feebly performed, the patient lies on his back, slips down to the foot of the bed, raps at imaginary objects, and thus slowly sinks. Ac-

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**TREATMENT.**—As inflammation of the brain is so frequent during the progress of various diseases of childhood, we are always on the lookout for the symptoms indicating its approach. These are so pronounced and distinctive, that the

um twenty drops, to half a glass of water; the dose a teaspoonful every hour to a child two years old and over. If the patient complains of severe pain in the forehead, and it is contracted, the eyes bright, dry and burning, I would substitute rhus, five drops, for the gelseminum.

In the older treatment cathartics were freely used in this disease, as well as cups and counter-irritation; but I believe the treatment named above will be found the most successful.

To give present relief and to remove the excess of heat, have the head sponged with warm water, and fanned. The evaporation from the head is the best and speediest means of lowering the temperature. The entire surface may be sponged, sometimes frequently, to aid the sedative in lowering the fever. There is no objection to the hot foot bath, or even a general bath, if it can be used without exciting the patient.

If there is irritation of the stomach, the remedies may not be retained, or if retained may not be absorbed. Here we will have to decide whether the irritation is due to the presence of irritating material in the stomach, or to a wrong of the nerves distributed to it. In the first there is retching and ineffectual efforts at vomiting, and it is known that the child has eaten indigestible food. An emetic of salt water or of ipecac will be the best treatment, and when the stomach is relieved the remedies first named may be given. In the second case, a towel wrung out of cold water should be applied over the stomach and bowels, and minute doses of nux (one drop to half a glass of water) given alternately with the aconite and gelseminum.

Every precaution must be used to avoid excitement, the object being to keep the patient as quiet as possible. Thus all noises are avoided, but few persons are admitted to the room, the doors are kept shut, and the windows darkened, though we must be careful not to cut off the supply of fresh air. The patient may have his position changed often enough to give rest.



cording to Copland: "In some cases, particularly those in which the cerebral substance is early and generally inflamed and turgid, instead of phrenitic delirium, an apoplectic sopor, often preceded by convulsions, quickly supervenes; with a slow pulse, stertorous, slow or labored breathing, turgid or bloated countenance, startings of the tendons, involuntary evacuations, torpor of the senses, and flaccidity of the limbs." Here the first stage is very short, or not noticed, and the disease passes rapidly to a fatal termination.

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**TREATMENT.**—As inflammation of the brain is of most frequent occurrence during the progress of the acute diseases of childhood, we are always on the outlook for the symptoms indicating its approach. These, fortunately, are so pronounced and distinctive, that they can not be mistaken. The child is restless and uneasy, moves the head uneasily; the head is hot, the face is flushed, and the eyes are bright. These are symptoms of determination of blood, and the remedy in the majority of cases is gelseminum. We prescribe it with the sedative, as—take tincture of aconite five drops, tincture of gelsemi-

um twenty drops, to half a glass of water; the dose a teaspoonful every hour to a child two years old and over. If the patient complains of severe pain in the forehead, and it is contracted, the eyes bright, dry and burning, I would substitute rhus, five drops, for the gelseminum.

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As the disease advances to the second stage, the child loses consciousness, though it may still be restless and uneasy. But presently it grows dull, sleeps with its eyes half open, and gradually sinks into coma, from which it can not be awakened. At this stage belladonna becomes the remedy, and we prescribe it with the aconite, using of each five drops to half a glass of water, a teaspoonful every hour. It is my experience that if any thing will arouse the patient at this stage it is this.

All treatment looking to depletion is now discarded. A stimulant purgative, as podophyllin with capsicum and extract of hyosciamus, to the extent of producing one or two stools daily, is useful. Stimulant applications to the extremities are necessary, and counter-irritation may be applied the entire length of the spine. I use dry cups to the spine, followed by a sinapism, and wet cups to the nape of the neck. When using the cups and scarificator, it is not our object to remove the blood, hence the cupping glass is never applied after scarification. The warm water applications to the head may still be employed if there is heat, or we may add a portion of tincture of camphor to the water employed to render it stimulating; or in some cases a weak tincture of camphor may be used alone. It should always be borne in mind, that there is as much danger in keeping the head too cool in this stage as in letting it remain too warm. Carbonate of ammonia and brandy may be given in this stage. To an adult the dose would be from half to one tablespoonful every hour or two hours; to a child two years of age about one teaspoonful. The urinary secretion should be carefully watched, for if suppression of urine should occur, or even retention, our patient will live but a short time. If the secretion is deficient, equal parts of sweet spirits of nitre and essence of juniper will prove useful, or a small quantity of turpentine may be used with the nitre.

Convalescents from this stage of phrenitis must be care-



ly watched. As soon as consciousness returns, we may commence the administration of quinine, about six grains in the forenoon, to arrest the obscure remittent fever that is so generally attendant. If there are objections to continuing the brandy, we will find the nux vomica and hyastin, as heretofore recommended, efficient substitutes. No continued mental exertion should be allowed, and excitement should be studiously avoided, in other respects the convalescence must be managed as in other severe diseases.

### SPINAL MENINGITIS.

Inflammation of the meninges of the spinal column is not an uncommon disease, though sometimes from the obscurity of its symptoms it may be mistaken for other affections. It occurs in two forms, as a distinct sporadic inflammation, and as an epidemic or endemic fever, which localizes itself in the spinal cord. It is in the last named cases that mistakes in diagnosis are usually made. The causes of this affection are those which give rise to other inflammations, as cold, sudden changes of temperature, injuries, and especially a sudden chilling of the surface after active exertion. It occurs most frequently in the young and vigorous, and is very rare after middle life.

**SYMPTOMS.**—Spinal meningitis usually commences with a well marked chill, lasting for several hours, though sometimes with a severe rigor of considerable duration. We have seen cases in which the chill was of twenty-four hours' duration, the latter part of it being alternated with fits of heat. Following this, there is marked febrile action, with hot, dry skin, hard and frequent pulse, the coated white, the edges and tip being red, constipation of the bowels, and scanty and high-colored urine.

The patient complains greatly of pain in the back, which is increased on movement that he dislikes to change position for any purpose; though in some cases, when the disease is severe, they are constantly shifting their position to

give them ease. By the second or third day the fever usually becomes high, the pulse running some thirty or forty beats higher than in health, the skin being very dry and constricted, and the irritability and restlessness marked. These symptoms may be so prominent as to completely overshadow the symptoms of spinal inflammation, the patient not even complaining of the pain, unless his attention is directly called to it. It will be noticed, however, that the slightest movement or changing the position of the body gives rise to pain, and when the attention is thus drawn to it the soreness of the spine will be continually noticed. Deep pressure usually elicits tenderness, and sometimes the sensibility is so exquisite that the patient cannot bear to be touched.

As the disease progresses, the fever assumes an irritative or typhoid type. The tongue soon becomes brown and sordes appear on the teeth. Typhomania occurs about the sixth or seventh day, and is frequently attended with looseness of the bowels. Sometimes there is marked irritation of the brain and delirium, at others a stupor which soon passes into deep coma. As the local disease progresses, it is found that the lower extremities are subject to involuntary movement, and that the patient has but partial command over them; and that the bladder and rectum is evacuated without the knowledge of the patient or there is retention of urine without the power of discharging it. At last, in severe cases, paralysis of the parts below the seat of inflammation is complete. The fever usually continued, though sometimes remittent, and is variably ataxic, presenting well-marked typhoid symptoms with the exception of diarrhoea, by the tenth to the twelfth day. It is usually protracted, lasting from two to eight or ten weeks.

TREATMENT.—In many cases it will be advantageous to commence the treatment with an emetic, especially if, in some cases, there are symptoms of morbid accumulations or nausea. Following this, I should use the warm

full doses until its specific influence is produced, as in preventing determination to the nervous centre more marked than any other agent. Associated with these remedies, we would direct wet cups to be followed by hot fomentations of hops or stramonium, in some cases rubefacient applications, as mustard or stimulating liniments.

will usually have to continue the above measures for three days, and sometimes longer, before any perceptible influence is produced. We may add to the treatment named, a solution of the alkaline diuretics at this time, and may also commence the administration of quinine. The treatment would now be the special view to the extent of controlling the pulse. The use of gelseminum in small doses, with a diaphoretic, or asclepias, a solution of the alkaline diuretics, and one and hydrastin in the forenoon, the dose being proportioned to the age and condition of the patient. The constant use of the sponge bath gives the patient great relief and aids the action of our remedies. The bowels should be kept in a soluble condition by the use of some cathartic; I prefer podophyllin thoroughly triturated twenty times its weight of white sugar, and with the addition of cloves or ginger to prevent its griping. If



be followed by an irritative fever, with sharp, quick pulse and dry skin. For an adult, from six to ten grains daily is as much as will generally be of advantage; and a child of ten years may usually take from four to six grains.

### EPILEPSY.

Epilepsy is one of the most serious of the diseases of the nervous system, not because of its fatality, for it runs a very chronic course; but because there is no tendency to spontaneous arrest, and medicine has heretofore had very little influence upon it. One of the most distressing features of the disease is, that it gradually impairs the mind, until the person, once bright and of sound mind, becomes a driveling idiot or a raving maniac. The disease usually commences in childhood, most frequently between the ages of six and twelve.

The causes of epilepsy are various, and not very well understood. They may be divided into *intrinsic* and *extrinsic*; in the first case existing in the cerebro-spinal nervous centers, or their immediate surroundings; and in the second existing at a distance, and affecting the spinal cord through the nerves. Of the first, we may instance inflammation and determination of the blood to the cerebro-spinal centers, disease of the meninges and of the bowels, and injuries of the bones, giving rise to compression, or continued irritation, as by the presence of a spicula pressing the nerve substance. Derangements of the blood may sometimes give rise to epilepsy, as in the retention of the solids of the urine, and other changes that we are not cognizant of. By an *extrinsic* cause, we understand one in which the irritation being set up at a distance, is propagated along the nerve trunks to the spinal cord, where, setting up an irritation, it manifests itself through the excitomotory system of nerves. The most simple instance of this action is witnessed in the case of cramps of the muscles of the extremities from irritation of the intestine.

may disappear entirely in a few days or weeks, if the epileptic attacks continue. It would seem that this abnormal action is once set up, the tenacious continuance is the same as in healthy function; why this is we know not, and neither can we propose a probable theory.

Regarding the *pathology* of epilepsy, we are much in the dark.

In some cases it would seem to be dependent upon defective circulation of blood in the nervous centers—retardation of blood; in other cases, upon a sluggish circulation—congestion; and in still others, upon some defect of nutrition. There are cases in which it is very probable that the condition of the blood is the exciting cause of the epileptiform seizure, though we must still attribute to an unnatural irritability of the nerve centers to explain the disease. Thus, I have seen cases in which every attack

was preceded by deficient secretion of urine; and even though as this secretion could be maintained in the urine, so long would the patient be free from the disease.

Cases in which the disease is dependent upon irregularity of the menstrual discharge, have come under the notice of almost every one. Experience, however, has proven to me, that epilepsy is eminently a disease of debility of the nervous system, even in cases in which it seems to be the most evident symptom of



unmistakable suffocation. 3d. The condition of respiration during convulsion is one which supports the notion that the convulsion is connected with depressed and not with exalted vital action. 4th. In the chronic form of convulsive disorders, the inter-paroxysmal condition is usually marked by evident signs of feeble circulation. 5th. The epileptic and epileptiform paroxysm is usually if not invariably, preceded by signs of failure in the circulation. 6th. In the fully-developed paroxysm, the pulse is sometimes aroused to a considerable degree of activity, not because the arteries are receiving a largely-increased supply of *red* blood, but because they are then laboring under a load of *black* blood, as they are found to labor during suffocation. 7th. Convulsion is never coincident with a state of active febrile excitement of the circulation. 8th. Epileptiform convulsion is a direct consequence of sudden and copious loss of blood. 9th. The condition of the circulation during convulsion is one which supports the notion that the convulsion is connected with depressed and not with exalted vital action."

It is of but little use to try to study the original cause in many cases of epilepsy; for, as has been remarked, it has probably passed away months before our examination. There is always, however, an exciting cause, which it is necessary to determine, if possible, as upon its removal the success of our treatment will in great measure depend. I have known it to be a failure of excretion, an imperfection in digestion, derangement of the menstrual function, excessive mental emotion, and not unfrequently excessive sexual excitement.

**SYMPTOMS.**—In some cases there are brief, premonitory symptoms of the approaching seizure, and rarely the patient has notice of it for hours. The sensations differ in different cases; sometimes a sense of weight and oppression in the head, with giddiness and loss of voluntary power; in others, a coldness passing from the feet upwards, and terminating in the epileptic seizure when it



ties the head. In the more protracted cases there is usually a marked dullness and hebetude noticed by the eyes, and the patient feels a loss of consciousness that is very unpleasant.

At an attack of epilepsy the patient becomes suddenly unconscious and falls to the floor, or wherever he may be seated. Involuntary movement from spasmodic contraction and relaxation is characteristic of the disease, and may be very intense or mild. If severe, the limbs are thrown into various positions, the trunk contorted, and the features remarkably changed. First one group of muscles contracts, and then another, so that parts are kept in constant movement. The lower jaw and tongue being affected, we find that usually the latter organ is severely bitten if means are not taken to avoid it. The patient usually froths at the mouth; respiration is normal in frequency, and the pulse but little changed, except that smaller and feebler. The countenance is not only affected by the convulsion, but in some cases is turgid, purplish, or almost black. Frequently the urine, and sometimes the feces are passed involuntarily during its continuance.

The duration of the epileptic seizure is very variable, sometimes lasting but a few seconds, and at others for fifteen or twenty minutes. The patient may have but one attack at a time, or they may succeed one another at short intervals until quite a large number has passed. When the attack ceases, the patient becomes completely restored, and usually falls into a deep, comatose sleep, from which it is almost impossible to arouse him for an hour or more.

The frequency of their recurrence varies in different cases; in some they do not appear oftener than once a month, or even less frequently; in others, every week, almost every day. Sometimes they are so distinctly periodic that the return can be closely calculated; but at other times they are very erratic in their course. In many cases there are slight seizures during the intervals between

the principal attacks; in these the patient seems to lose consciousness but for a moment, and stares vacantly at persons present; passing off, he has no recollection of it, nor of the epileptic attack.

TREATMENT.—Whilst a considerable number of cases of epilepsy can be cured, a large number can not. Much depends upon the causes inducing the disease, the time it has continued, and the condition of the various structures of the body. Possibly there is no affection that requires more care to determine an appropriate treatment for a cure than this; hence, I would advise that a physician be consulted, who has had great experience in its management, and that domestic treatment should be avoided.

The treatment for an epileptic seizure is usually very simple. Place the patient in a horizontal position, in such manner that he will not be able to injure himself. So arrange things that there will be free circulation of air; and to prevent congestion, loosen the clothing around the neck and waist. This is all that is necessary in the majority of cases; but if the convulsion continues long, give the remedies named for convulsions.

### CONVULSIONS.

Convulsions occur far more frequently during childhood than after puberty, though they may be occasionally noticed at all ages. The causes giving rise to them are various. Sometimes they are produced by disease of the brain and spinal cord, as in determination, inflammation, and some obscure structural lesions; at others they arise from an external irritation, it being transmitted to the spinal cord, and giving rise to excited reflex action. According to Dr. Marshall Hall, convulsions are dependent upon irritation of the *true* spinal system, and though this occurs in some cases from causes acting directly upon the nervous system, it more frequently depends upon an irritation of some distant part, transmitted to the spinal cord

MS.—If convulsions occur during disease, they  
rally preceded by tolerably well marked symp-  
which the close observer may anticipate their  
; and though not always constant, it is well to  
due consideration. The most marked of these  
en jerking, involuntary movement of the extrem-  
quick, grasping movement of the hands. This  
observed as well when the child sleeps as when  
nd is sometimes increased by motion. Usually,  
sleeps with its eyes partly open, and we observe  
globe of the eye is drawn upward and rolled  
nd this involuntary movement of the eye may be  
y noticed when awake. With these symptoms  
ay be excitement of the nervous system, mani-  
restlessness, fits of crying in children, and sleep-  
or, we may have the reverse, the patient being  
assible and somnolent.

ttack is always sudden, the patient losing con-  
s, and being to a great extent insensible. The  
on is usually very marked, but in some cases we  
it slight or entirely absent, the patient being rigid  
aining in one position. Respiration is labored, in  
ses very markedly so, and in these the counte-  
turgid and purple, and the features much dis-





deep sopor, from which the patient can not be aroused. One convulsion may terminate the attack, but in many cases one succeeds another for from one to twenty-four hours. The interval between the spasms is frequently marked by nothing more than a relaxation of the entire system, and a restoration of the power of deglutition, the patient being in a semi-comatose condition, and totally unconscious. Children having convulsions once, are usually more liable to them than others, and they will frequently come on from slight causes.

TREATMENT.—Our primary object is to arrest the spasmodic movement which is so alarming to the friends, and, no matter how often seen, to some extent so to the practitioner. Calmness and decision are very important requisites in this case, as all around the patient is excitement, and a hundred expedients to benefit the sufferer are proposed. Usually, we would give our patient the compound tincture of lobelia and capsicum, in doses of a teaspoonful every five minutes to an adult, and one-fourth of a teaspoonful as frequently to a child. We can usually administer this during the paroxysm by carefully pouring it into the mouth, and allowing it to pass down the throat gradually. This should be continued until the convulsion passes off, nausea being generally induced; or, if we have reason to suspect crude ingesta, we should carry it to free emesis; or, instead, give a sufficient quantity of ipecac to evacuate the stomach. If the medicine can not be given by mouth, we would use it as an enema, combining two or three times the quantity with the necessary amount of water, and repeating it as occasion requires. The tincture of gelseminum is the next and most efficient agent, and may be given in doses of from five to ten drops of the common tincture to an adult person, or from one to five drops to a child two years old. It may be repeated at intervals of ten or fifteen minutes, or as occasion requires. Tincture of asafœtida, or sulphuric ether, sometimes answers a good purpose, and occasionally valerian

added to the combination for its arrest. These remedies should not only be given during the convulsion, but afterward to prevent its recurrence.

Bathing the feet in hot mustard water for ten or fifteen minutes, or the use of the hot sitz bath, is frequently attended with benefit. Occasionally sinapisms to the feet or ankles are applied, or to the bowels, if there seems to be heat or irritation. If the face is flushed, and the head hot, we would use cold applications, and in some cases cups to the neck and spine. There are cases, as, for instance, when the skin is hot and burning, that I would prefer the wet sheet pack to all other medication.

If the symptoms of convulsions are noticed, we may almost always prevent their occurrence by the administration of small doses of tincture of gelsemium. Usually where there is danger of a recurrence of convulsions, I prescribe bromide of ammonium  $\mathfrak{z}\text{ij}$ , water  $\mathfrak{z}\text{iv}$ , a teaspoonful every hour to four hours; and I leave it in cases of threatened convulsions, to prevent their occurrence; and in families in my practice where there is a tendency to convulsions during childhood, the remedy is kept constantly on hand; not only is it a good prophylactic before the convulsion, but it is also one of our best remedies to prevent their recurrence when once arrested. Just as soon, however, as the first convulsion has passed off, we endeavor to learn its cause, so that by its removal we may avoid any danger of its recurrence. Thus, if from crude ingesta, we give an emetic; if, from irritation of the bowels, we use the appropriate means to relieve it; and if from arrested secretions, these should be re-established.

### HYDROPHOBIA.

Rabies is a disease of great antiquity, and has been described by most writers on medicine from the earliest ages. It has its origin in the canine and feline animals, may be propagated to all genera and species.



How the disease originates, or what is the character of the poison, is beyond our knowledge. Some contend that from its first commencement it has been propagated by contagion, while others reason that the causes which produced the first case, may be again set in action and reproduce the disease. These suppose that protracted thirst or hunger, extreme heat, violent excitement or anger, the sexual heat, etc., variously associated, will develop the malady independently of contagion.

When once developed, it is transmitted from one animal to another, and to the human family, by a specific animal poison found in the saliva, and which is usually introduced into the blood, through a wound made by the teeth; though like all other animal poisons, all that is necessary is, that it shall be brought in contact with an abraded surface.

As regards the physical properties or character of this poison, nothing is known, and neither has it been determined what part secretes the poison, further than that it is furnished by the glands connected with the mouth. Some writers contend that it is not a disease of the blood, and urge as evidence the long period that sometimes elapses from the inoculation before the disease is developed.

They therefore urge that it must be the nervous system that is affected, the phenomena being those of a nervous malady of the most intense form.

As regards the pathology of the disease, we may assume that the poison of rabies absorbed into the system, gives rise to a peculiar irritation of the nervous system, more especially marked in the true spinal system. The symptoms all point to the medulla oblongata and spinal cord as the seat of the disease, and the post-mortem examination shows these parts to have been subject to severe irritation and vascular excitement.

The appearance of hydrophobia in the dog is indicated by a change in his disposition, usually exhibiting a



ked antipathy to other animals, and rarely becoming  
ched to those to whom he was formerly indifferent.  
seems also to have changed his habits, picking up  
ws, rags or any small objects, and licking cold sur-  
s, as stone, iron, etc. He becomes morose and sullen  
his disposition, becomes lonely, has a haggard and  
picious look, and is constantly thirsty; respiration soon  
omes difficult, and saliva flows from the mouth, and  
ns a viscid foam, and he shows great irritability and  
disposition to snap at and bite other animals, though  
may still obey the voice of his master. At last he  
comes uncontrollable, and flies at every creature he  
ets, and having no fear, he is not intimidated by hold-  
g or striking at him with a whip or stick, but is ren-  
red more savage. At no period is there any dread of  
ter, but the animal still exhibits strong evidences of  
irst, and runs to it with avidity, and all other animals,  
ith sometimes the exception of the horse, drink with  
se. The disease having continued for several days, the  
imal is at length exhausted, and dies in convulsions.

**SYMPTOMS.**—The period of incubation is seldom shorter  
an from thirty to forty days, or may be postponed  
om one to two years. The wound seems to heal as  
ndly as it does in other cases, and usually no unplea-  
nt sensation is experienced in it. Sometimes there is  
feeling of constriction in the cicatrix, or slight shooting  
in, but we are inclined to attribute this, as well as the  
ick pulse and constitutional symptoms sometimes met  
ith, to the effect on the mind of the patient, rather than  
the influence of the poison.

The invasion of the disease is usually marked by a  
urrence of pain at the seat of the injury, which shoots  
ward in the course of the nerves, occasionally to the  
igastrium or præcordia. Not only is there pain, but  
e cicatrix becomes of a dark livid red, is irritable,  
mid, and sometimes surrounded by small phlyctenulæ,  
ntaining a bluish fluid, or in rare cases the cicatrix

opens and discharges a watery or icherous fluid. The patient is now very anxious and restless, and complains of drowsiness, chilliness, flushes of heat, and sense of constriction of the throat, and stiffness of the parts concerned in deglutition. The act of swallowing, especially fluids, is now attended with pain and distress, and by spasmodic action of the muscles engaged, so that frequently they are forcibly ejected from the mouth. The difficulty of swallowing rapidly increases, and the patient fears to make the attempt, and the sight of fluids occasions the most distressing spasms of the throat, followed by sobbing, tremor, forcible respiration and exhaustion.

The sufferings now become intense; the mouth is dry, parched and clammy, a frothy saliva being secreted, and occasionally forcibly expelled during the paroxysms; the thirst is intense, though the sufferer is not only unable to take fluids, but the sight or sound of them gives rise to uncontrollable convulsions; the countenance is haggard and anxious, the brow contracted, the eyes staring and wild, and startling in their expression, and the angles of the mouth retracted; respiration is hurried, laborious, and attended with dryness and constriction of the air passages, and the sensibility becomes so exalted that the slightest touch, or a breath of cold air striking the surface of the body, will occasion a paroxysm.

The mind of the sufferer is usually clear in the absence of the paroxysms, but when they are on, he has the rabid impulse of biting or tearing to pieces whatever comes in his way. These symptoms continuing, the patient becomes gradually exhausted, the pulse becomes small and feeble, respiration hurried and difficult, and he dies suddenly during a violent exacerbation. The attack may last from two days to a week, or in some rare cases the symptoms become ameliorated, and quietly wear themselves out in the course of two, three or four weeks. In these last cases the patient rarely recovers completely, but has occasional slight returns of the original symptoms.

**TREATMENT.**—Immediately on the receipt of the injury, it is recommended to wash the wound or wipe it dry, and to keep it with the mouth for five or ten minutes. Or the part may be immediately excised, or a ligature applied between it and the trunk, if of one of the extremities, to prevent the poison from gaining entrance into the system; this will be done before a physician can be seen. When a case presents itself to us, we may excise the part bitten, or apply a cup to it, draining it well, or we may cauterize it freely. I prefer the latter practice, and use a saturated solution of chloride of zinc, bringing it in contact with the whole abraded surface. A deep eschar is formed, which does not slough for several days, and when thrown off the wound suppurates freely. Three cases were thus treated by me in 1857, that had been bitten by a dog that communicated the poison to several animals which died of hydrophobia; the cauterization was very thorough and deep, and not more than half an hour after the injury; not one of the cases had any symptoms of the disease. A fourth case occurred in 1859, and a fifth in 1862, which were treated in the same manner and with the same result, but in neither of these was the evidence positive that the dog inflicting the bite was rabid. No internal medicines were used in any case.

When hydrophobia is fully developed, we are at a loss how to treat the patient; some writers have recommended the employment of lobelia to keep up continuous nausea; others to give scutellaria in infusion in as large doses as the patient can bear; and others the narcotics, as the *cannabis indica*, belladonna, stramonium, hydrocyanic acid, etc. Each has been employed thoroughly, and though they may have so mitigated the symptoms as to have led the attendant to suppose that under more favorable circumstances they would have been followed by success, yet we have no evidence that a single case has been cured. Evacuents have not only failed to accomplish any good result, but have undoubtedly



hastened death. The anagallis purpura has been highly extolled, and cases reported cured, but we are not told whether it was used as a prophylactic previous to the full development of the disease, or afterward, and as will be noticed, very much depends upon this. If I had to adopt a treatment in these cases, it would be the continuous hot bath, quinine in large doses, and chloroform by inhalation.

### *DELIRIUM TREMENS.*

Delirium tremens, in a very large majority of cases, is the result of intemperance in the use of intoxicating liquors, and usually follows a protracted debauch. It may be produced by the habitual use of opium, and in rare cases it may result from excessive emotional excitement in persons of feeble health. As a general rule it occurs in persons who are habitually intemperate, though they may never have been so intoxicated as to attract much attention. It is claimed by some that delirium tremens is not the result of excessive excitement, but that it makes its appearance when the person has ceased to drink, either from inability of the stomach to receive it, or because they desire to sober up. Hence they say that it is the result of the withdrawal of the stimulant at a time when the system is accustomed to its use. This would be good reasoning, were it not for the fact that in very many cases it comes on while the person is still drinking to excess. How, then, will we harmonize these opinions, or rather these facts? There is only one way, and that is that there is a delirium of drunkenness following the debauch immediately, and another that makes its appearance in from two to seven days afterward. It may be that this accounts for the great difference in the treatment of the disease.

**SYMPTOMS.**—Delirium tremens is usually announced by a marked vigilance and entire sleeplessness, though the person's mind may as yet be entirely clear, and free from the vagaries that are soon to make their appearance. We find that there is great irritation of the stomach, frequently

at, sometimes nausea, and in all cases an entire loss of appetite, the patient having usually taken but little if any food for several days. The pulse is generally slow, and the hands and feet are cold and clammy; he is anxious and dejected, sighs frequently, and complains of oppression about the præcordia. These symptoms sometimes continue for two or three days, at others for but a few hours. The restlessness and vigilance of the patient are now increased. In the countenance has a peculiarly wild expression: mental delusions now occur, at first at intervals, and easily dispelled by reasoning with him, but at last becoming fixed and constant, he sees curious shapes and beings, snakes, devils, dragons, assassins, etc., and is in continual terror of his life, or of future retribution. It is singular that these visions are so generally frightful, and strike the sufferer with mortal terror, and yet the cases are very rare where it is otherwise. He sees them on his bed, creeping and laughing at him from behind the furniture, whispering at him from the air, climbing on his body, and it is impossible to displace these fancies. Occasionally they take human shapes, but are still objects of terror, as murderers, thieves, etc., and he tries various means to escape from their clutches, even in some cases to jumping out of the window. The intensity of this delirium varies in different cases, the patient being managed with ease in some, but in others requiring to be held down in bed to prevent him from injuring himself and others. During this time the skin is harsh and dry, the pulse frequent and small, the tongue dry and furred, and the appetite entirely lost. The secretions are all diminished, the patient is feeble, and there is an unnatural tremor of the muscles. Continuing in this way for a variable period, it may terminate by a subsidence of the excitement, and by a deep sleep, from which the patient awakes free from these morbid fancies. In other cases the delirium becomes more and more severe, until finally the system sinks under it, the patient dying from the fourth to the twelfth day.

**TREATMENT.**—To enable one to quit drinking when on the verge of delirium tremens, and to relieve the suffering and avoid the disease whilst “sobering up,” I have been in the habit of making this prescription: *R* Iodine, extract of *nux vomica*, of each grs. *vj*; *hydrastin* grs. *xxx*; make 30 pills, and give one every three or four hours. To aid this, small portions of beef tea are frequently taken to relieve the unpleasant sensations in the stomach, and to give stimulation. Very frequently these means, if resorted to early, will ward off the disease, and place the sufferer on his feet.

Dividing the cases into two classes—one occurring while the patient is still drinking, and marked by great vascular and nervous excitement; the other when his stomach has refused to tolerate more liquor, and showing marked evidences of exhaustion—we will have two methods of treatment pretty clearly outlined to the reader. In the first case it must be sedative, and in the second stimulant and restorative.

In the cases marked by excitement, I prescribe *veratrum* and *gelseminum*, ten to twenty drops of the first, and two drachms of the second, to four ounces of water, and give it in teaspoonful doses every half hour to one hour, until relief is decided. In this case a towel wrung out of cold water, applied over the stomach and bowels, and sponging of the head, are important aids in the treatment.

In the second case we may give the tincture of *capsicum* in teaspoonful doses, until the patient is sufficiently stimulated, and some food can be taken. Other stimulants will answer a similar purpose, and the old prescription of compound tincture of cardamom, with compound spirit of ammonia, equal parts, in doses of one or two teaspoonfuls as often as necessary, is a very good one. In this case stimulant applications over the stomach and bowels, and stimulants to the extremities, sponging the forehead or face with cologne or alcohol, are additional



case. Following the stimulants we may give quinine and morphine, in the proportion of one or two grains of the first, and one-eighth to one quarter of a grain of the second, every three or four hours. The addition of a grain of camphor to this will sometimes increase its value. In this case we want to give food as early as possible, and beef tea is the best in the majority of cases; indeed, it has been remarked, that as soon as a half pint of beef tea could be taken and appropriated the patient was out of danger.

In very severe cases chloroform may be administered until natural sleep is secured.

### NEURALGIA.

Neuralgia is sometimes preceded by a sense of formication, or numbness, and sometimes by soreness and stiffness. The pain usually comes on gradually, is at first obtuse and aching, but as it continues becomes sharp, lancinating, darting and lacerating. Sometimes it seems to be confined to the one spot; but at others it shoots along the course of the nerve, either in the direction of the trunk, or the extremities, or seems to dart through the part in a direction opposite to the course of the nerves. The pain is usually very intense; so much so, sometimes, that the patient screams with the agony, and in very severe cases becomes unconscious or maniacal from the intensity of the suffering. Occasionally we notice other disturbances of the part, as twitchings and other involuntary muscular movements, and derangements of function, and, in rare cases, seeming paralysis. The constitutional disturbance varies greatly in different cases, depending upon the severity of the disease, and its duration. In common cases, when it has continued for twenty-four hours or more, we find an excitement of the pulse, dry skin, constipated bowels, coated tongue and loss of appetite, the patient complaining that the extreme suffering has made him sick. In protracted cases the health suffers very

much, the patient becoming feeble and anæmic, and troubled with various functional derangements.

**TREATMENT.**—When the skin is flushed, the pulse strong, and the temperature increased, the sedatives will give the speediest relief. To half a glass of water add five to ten drops of aconite, and a teaspoonful of gelseminum, and give a teaspoonful every hour. If the case is stubborn this may be followed with a solution of acetate of potash. If the pain is burning, or the patient complains of burning of the surface, five drops of rhubarb may be substituted for the gelseminum. In the opposite case, the surface being pallid and the pulse feeble, we use a stimulant, as five grains of carbonate of ammonia, or five drops of sulphuric ether, followed by quinine in doses of one or two grains every three hours. When the neuralgia is chronic, the cure will be accomplished by building up the general health, by the use of tonics, restoratives, good food, and good hygiene. It is well to recollect that when neuralgia has arisen from a local cause, it is not likely to get well until this is removed. Thus we may have neuralgia of the face, the eyes, the ears, from a decayed tooth, and though the sufferer does not like to admit it, the decayed tooth must be removed before a permanent cure results. So in other cases: a neuralgia of the chest may arise from irritation of the stomach; a neuralgia of the bladder, uterus or hips, may arise from constipation, etc.

The local applications made use of vary greatly, being sedative, stimulant, narcotic, emollient, etc., according to the whim of the prescriber. Chloroform and aconite are probably the most efficient agents we can use when the neuralgia is superficial, as in the case of the face. If we desire a stimulant influence we add oil of sassafras and alcohol. If a deep-seated part is affected, as in the case of the sciatic nerve, we will find *firing*, or the application of a hot iron to the surface in the course of the nerve, one of the best applications. The strong am-

ia liniment applied on flannel, so as nearly to blister part, is sometimes very successful. The extract of opo has been successfully used as a local application, as also the emplastrum belladonnæ. The irritating ter continued until it produces suppuration, is very treatment in some chronic cases.

### *HYPOCHONDRIASIS.*

Among the most troublesome cases that come under physician's care, are those which may be classed under present head; though they may vary greatly in their symptoms, there is that common to all, which gives them distinctive character.

Copeland's definition, "Chronic indigestion, with languor, flatulency, dejection of mind and fear, arising from adequate causes; general exaltation of sensibility, a rapid succession of morbid phenomena, simulating numerous diseases, or otherwise a real but variable state of suffering, exaggerated by the morbid sensibility and fears of the patient, with unsteadiness or variability of purpose, and distressing anxiety respecting his complaints." This in a few words expresses a condition in which, in addition to a variable amount of physical disease, we have a marked lesion of innervation, and to some extent of the mind. Some authorities class it with insanity, and there are cases sometimes grouped under this head, in which the patient imagines himself a tea-pot, or a locomotive, or that his body has so increased in size that he can not get through the door, or has a morbid dread of thieves, assassins, etc., which properly belong to that class.

The causes of hypochondriasis are various. Sometimes disposition to it seems to be hereditary, making its appearance after middle age from slight exciting causes. It usually results from prolonged mental exertion, or letting the mind dwell constantly on one subject, and especially in persons of sedentary habits.



"Whatever exhausts, or directly depresses cerebral power, as intense application of the mind to difficult or abstract subjects, anxieties respecting schemes, speculations, or objects of ambition; disappointments, sorrow, fright or sudden alarm; the depraving passions; severe losses of fortune, or friends; indulgence of sombre or sad feelings; devotion to music and the fine arts; reading medical books, etc., and whatever favors congestion of the brain, may cause the complaint."—*Copland*.

**SYMPTOMS.**—In a majority of cases we find considerable derangement of the digestive organs; the tongue is coated at the base; there is clamminess and bad taste in the mouth in the morning; digestion is attended with flatulence and eructations, and the bowels are constipated. The secretions are deranged; the skin being dry and harsh, or soft, pale and relaxed, with feeble circulation and coldness; the urine is usually copious, but deposits the lithates or phosphates. There is marked hyperæsthesia in many cases, the sensibility being so exalted that the slightest suffering is magnified into intense pain, and there is constant suffering from wandering pains in various parts of the body.

Occasionally the patient seems dull and impassive, brooding over his troubles and diseases, and seems to feel no acute suffering, and is with great difficulty aroused so as to describe his imaginary diseases, answering that he knows them to be such as are incurable by medicine, and therefore it is useless to describe them. In the one case the patient is always complaining, and evidences of suffering are well marked; in the other it is very evident that the patient is diseased, but he is wrapped up in himself, and constantly brooding over his diseases, rather than complaining about them.

In many cases the patient, notwithstanding the severe character of the symptoms, presents all the appearances of sound health. "He often complains of violent pains in the temples, forehead, or occiput, or of a general head-

ce, with dimness of sight, and noises in the ears, or of sense of weight or pressure, more intolerable than pain at the vertex, with giddiness or confusion of mind; and sometimes of a constriction or tightness of the head or temples, or of a morbid sensibility of the scalp and roots of the hair. Occasionally the senses are morbidly acute, and intolerant of light and noise. Pains resembling rheumatism, or those of syphilis, are felt in various situations, occasionally with a feeling of burning or heat, and sometimes of coldness, horripilations, cramps, feebleness, or threatened paralysis of one or other of the extremities. Weakness of the limbs, unsteadiness in walking, or looseness of the joints (in some instances with neuralgic pains) and great susceptibility to cold and heat, are not frequently complained of. The morbid sensibility of the hypochondriac is generally increased by a cold and humid state of the atmosphere, by easterly winds, and by very warm seasons. His mind is incapable of exertion or prolonged attention, although when aroused, he may be lively and acute; but he soon becomes engaged in his own feelings and sufferings. To these he frequently recurs in conversation, whenever he has an opportunity of doing so, although he seems to suspect that the subject is unpleasant to those who listen to him, and therefore suppresses a part of his complainings. In some cases there is dyspnoea, constriction of the chest, with a dry, short, or spasmodic cough, and occasionally a sense of suffocation or constriction is felt in the throat, with flatulence and various other symptoms resembling those attendant on hysteria. These phenomena have induced several writers to consider the disease closely allied to hysteria, and the severe palpitations, or irregular action of the heart, frequently also complained of, have further countenanced the idea; while they have excited the anxiety of the patient and induced him to believe himself the subject of irremedial disease of the heart. Sleep is sometimes materially disturbed, and occasionally the hour of repose is ardently

concentrated on himself and his feelings, incapable of attention or mental exertion, unless in instances of unusual interest or moment. Occasional, dimness of vision, and intolerance of light are so great as to justify his fears; and the pain in the head, or the sensation of pressure on the temples, are so severe that the eyes seem start from their sockets."—*Copland*.

### **HEADACHE.**

Headache is produced by many different causes, though we can not tell why they produce the effect, or even what structure it is that is painful, without which, by regarding these causes, to remove, and consequently cure the disease. We might classify it as follows: 1st, Headache from determination of blood to the head; 2d, from cold; 3d, from derangement of the functions of the organs; 4th, from deficient urinary secretion; 5th, from excessive exertion; 6th, sympathetic.

*Headache from determination of blood* is a common form of the disease, and may arise from any cause producing irritation of the brain, as over-excitation, or exercise in a stooping position, exposure to cold, &c. The symptoms of this form of headache are a throbbing pain in the head of a tensile or throbbing character.



ready relief; and if very persistent, we may use a  
 1 of acetate of potash.

*Headache from cold* is a frequent form of the disease in  
 and spring, and will sometimes last for several days  
 ne. It seems to be dependent partially upon arrest  
 etion, but more especially upon the sub-inflamma-  
 condition of the mucous membrane of the nose,  
 ix, etc. The head feels full and heavy, and the pain  
 ally dull and aching, with occasional sharp, darting  
 just above the eyes, especially on stooping, or any  
 ued mental exertion.

we would treat this case as we would the bad cold it is  
 ated with. The feet should be bathed in hot mus-  
 water, the patient packed warmly in bed, and an  
 diaphoretic used to induce free perspiration. A  
 itive may frequently be used with advantage, and  
 times the speediest relief is obtained from the use of  
 netic. Tincture of gelseminum, in doses of five to  
 drops every two or three hours, is a valuable reme-  
 n many cases, and an alkaline diuretic should follow  
 iaphoretic. Frequently we would direct a sinapism  
 e back of the neck and between the shoulders, and  
 tionally in severe cases we may use the cups.

*Headache from deficient action of the kidneys*, is, in my  
 on, the most common form of the disease. It is  
 sioned by cold or any cause that tends to arrest the  
 tion. In some persons it recurs frequently, and lasts  
 ne or two days at a time, so as to become a source of  
 annoyance. In the milder cases the head feels heavy  
 dull, and there is a dull, aching pain and feeling of  
 ness in the base of the cranium, sometimes shooting  
 side to side, and at others from before backward. In  
 ere attacks, the pain is intense, darting, throbbing,  
 tensive, and is aggravated by motion, and especially  
 noise, or stooping. If attention is called to it, it is  
 oticed that the urine was scanty prior to the attack,  
 became more free afterward.

We can mitigate this form of the disease by the administration of purgatives and diaphoretics, but it is more readily arrested by the use of the saline diuretics. The tendency to the disease may be frequently overcome by the employment of a solution of acetate of potash in the usual doses, whenever the head commences to feel heavy and bad.

*Derangement of the stomach* is a frequent cause of headache, and especially in persons of sedentary habits, and those who have but little exercise in the open air. It is noticed in these cases that the susceptibility of the nervous system is increased, and the digestive and assimilative functions weakened. This form of headache is induced by anything that irritates the stomach, as indulgence in improper food, eating late suppers, overloading the stomach, too free use of stimulants, especially if not accustomed to their use, constipation of the bowels, etc. An attack of this headache usually comes on with a sense of weight and tension, with dizziness, and a sharp, lancinating pain when the patient stoops. In an hour or two the patient frequently feels chilly, and there is a sensation of nausea and disgust, which not unfrequently terminates in vomiting. The pain now becomes severe, is dull, aching and tense, with throbbing in the temples, and almost insupportable weight; or is sharp and lancinating, darting from one part to another, and seeming sometimes as if the head would be torn to pieces with its violence. It usually commences in the morning, and does not terminate until the patient goes to sleep at night, and in rare cases continues for several days.

If called to a case of this kind of headache during the attack, I usually administer an emetic, one that will act quickly and kindly being preferred. There is no other way to check the paroxysm in a majority of cases, and this is very efficient. Otherwise, I would have the feet bathed in hot mustard water, a sinapism applied over the epigastrium and upon the nape of the neck, and give

ely an infusion of sage, spearmint, pennyroyal, or any warm, stimulating diaphoretic. Quite frequently when the patient has drunk a cupful, vomiting ensues, and it is thrown up; if it is now repeated, in a short time the patient will go to sleep, and will awake refreshed. We can generally ward off an attack by the use of the neutralizingordial, or a mild cathartic taken the evening previous, or by the administration of an alkaline diuretic. For the radical cure, we will adopt such means as would seem indicated from the condition of the stomach, some form of dyspepsia being almost always present.

*Headache is frequently periodic*, and is occasioned, we suppose, by the same causes that give rise to other periodic diseases. In the most frequent form, it comes on in the morning, and gradually increases up to noon, and then decreases until evening. It may, however, appear at any period of the day, or every other, or every third day. The pain is sometimes dull, heavy and contusive, and at others sharp, lancinating and throbbing; there may or may not be sickness of the stomach, or chilly sensations, or slight febrile action when the pain is most intense.

In periodic headache we wish first to establish the secretions, which are almost always impaired, and next to administer some remedy capable of controlling the periodicity. Thus, if the bowels are costive we would give a podophyllin purgative, with a diaphoretic, as essential tincture of asclepias and eupatorium, with tincture of gelseminum, and an alkaline diuretic. In some cases this will control the headache, but usually it only prepares the way for the administration of quinine, which is given in the same doses that would be used in a case of ague. Given in this way, quinine always arrests the disease, but if the system is not properly prepared for it, it frequently fails.

*Sympathetic headache* is sometimes called *nervous*, and generally occurs in feeble, debilitated persons, and those of a sedentary habit. It is almost always associated with



diseases of some other part of the body, and is thus frequently seen in cases of uterine disease, especially tional lesions, in derangements of the urino-genital or the bowels, etc. The pain varies in character, ressem the two preceding forms, and recurs frequently b irregular periods.

Having determined the nature of the lesion givin to the headache, we will frequently relieve it eith curing or palliating the primary disease. Any o means already named may be employed in addition.

## PART VI.

### SPECIFIC MEDICATION.

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The reader will have noticed, in the preceding pages, than an effort was made to point out the symptoms calling for remedies, and to explain why one remedy was selected in the place of another. It has been contended that this was impossible, at least in so far as selecting *one* remedy that would cure a certain condition of disease; and we have been taught that the action of medicines was very uncertain, depending upon constitutional or other conditions that could not be known by the physician. Thus we are taught that human beings differ from one another so much that the same agent will not have the same action in different individuals, and whenever a remedy fails to do what is expected of it, the person is said to have an *idiosyncrasy*.

Possibly from this, as much as other causes, medicines have been combined in groups; for if one fails, then one of the others may succeed. Thus in a group of six or twelve drugs we will have six or twelve chances, against one with the single remedy. Then again, the six or twelve may influence different parts or functions, and there will be a greater chance to do something with the group than with the single one. Like shooting birds, the ordinary marksman will kill more with a fowling piece charged with shot, than if he used a rifle with a single bullet. The simile holds good, for the doctor does

*kill* more with his shot-gun prescriptions, than if he used single remedies.

Based on the same doctrine of idiosyncrasy, or the uncertainty of medicine, came the use of large and poisonous doses, so that an effect of medicine might be apparent; and as this poisonous action was pretty constant, the action of drugs would have some certainty. Thus, enough cathartic medicine would always act upon the bowels; enough of emetic agents would produce vomiting; enough blood-letting would make the pulse feeble, blanch the surface, and render the patient unconscious to pain; enough tartar-emetic would make and keep him sick at his stomach; enough Spanish flies would raise a blister; and enough of almost any drug would make a person fearfully sick. Diaphoretics, diuretics, and expectorants were not so certain; neither were tonics and restoratives; but the class alteratives—"which act in an insensible and inexplicable manner"—were always at hand to be drawn upon. Thus, while certainty in the curative action of remedies is disputed, there could be no doubt of the certainty of their injurious action.

I have taught for years that it was possible to have certainty in the practice of medicine, and that this certainty was to come from the careful observation of disease, and a study of the action of medicines in small doses. It is a law of nature that *like causes always produce like effects*. If the conditions of two human bodies are alike, a drug will have the same influence in each. If a medicine is found to cure a disease in one case, it will cure in all like cases. What we want to know, then, is the exact condition of the sick, and the exact relation of one or more drugs to this.

Disease is wrong life, a departure from health, and in no case is the life of the sick increased. Every drug, therefore, that impairs the life in any of its functions or parts, should be avoided. Healthy life is shown in the expressions of the body. We say that if a man is able



to do a man's work, and do it pleasantly, there is health. Commonly, if a man can not do a man's work, or if there is a want of pleasure, or discomfort, or pain, the man is sick. So of each part of the body: every part has a work to perform, which we may observe. If it does it, and does it pleasantly, it is well; if it fails to do it, or expresses discomfort or pain, it is sick.

Of course the loss of power to do, varies in different cases, as the discomfort varies in different cases. A man may be unable to do a man's work, and in the effort to accomplish it, may show what seems to be increased activity. Thus, if a man has to remove a thousand bricks across a road, and can carry forty at a time, he may move very leisurely and accomplish the work in four hours; but if he can carry only five at a time, he will have to move rapidly to do the work in the same time. So with the heart. In health, while strong, it is able to do the work of circulating the blood in from 60 to 80 pulsations per minute; but let it be enfeebled by disease, and it will have to contract 100 or 120 times to do the same work. The strong, healthy lung can aerate the blood, and remove the carbonic acid gas in 16 to 18 respirations per minute; but the lung enfeebled by disease may require 25 to 40 respirations to accomplish the same work. Thus the apparent excess of activity is shown to be dependent on debility.

I think there can be nothing plainer than the propositions made that the ability to work, and to work pleasantly, is the measure of health; whilst the inability to work, and the unpleasantness, is the measure of disease. If I get up in the morning, and am able to do all that is to be done in the day, from eating my breakfast to getting ready for bed, and have a sense of pleasure in it all, I am well; but if I am not able to do it all, or any part of it, whether it concerns the eating of a meal, the movement of the bowels, or the regular labor of the day,

work, or suffer from doing it, in the ordinary course of life, they are diseased. If my stomach has its natural desire for food, at regular times, and disposes of it kindly, with a sense of pleasure. If it refuses the customary food, or gives unsatisfactory sensations, it is sick. If the bowels move regularly, at regular times, pleasantly, they are well; if they do not, or if there is a sense of discomfort, they are sick.

It has been remarked that a sound person does not realize that he or she has stomach, bowels, liver, or other organs, etc., because the attention has not been directed to them by unpleasant sensations. When a person comes to realize that such organs exist, and that unpleasant sensations arise from them, they may be diseased. Thus to realize that one has a stomach, liver, or bowels, is an unpleasant discovery.

Going a step further, we find that disease is often indicated in the sensations of the sick, which are different from the sensations in the physical appearance or properties of the organs and their parts, which the observer may learn of by the ordinary senses. In the ordinary practice of medicine, a great deal of dependence is placed upon what the patient feels, and to some extent upon what he thinks. This evidence must be taken with caution, for a person who is not educated in physiology, his

ers it is diseased; if the stomach suffers, it is diseased. The character of the pain or uneasiness will point out, to some extent, the character of the disease. If it is acute, has sharpness, and the part seems "wide awake," there is increased circulation and innervation. If it is dull, heavy, full, we may be pretty certain that the circulation and innervation are impaired. The first calls for sedative treatment, the last for stimulants.

It is evident, then, that it is possible to determine both the locality of disease, and the quality of diseased action. We determine first whether the disease is general or local; it may be either the one or the other, or both. If general, the symptoms are common to the whole body, and no one part suffers more than another. If local, both the impairment of function and the unpleasantness or pain, point us to the organ or part. If both general and local, we have both general symptoms showing involvement of the entire body, and local symptoms showing the disease of a special part.

The next proposition is, that remedies act directly upon the human body, influencing it as a whole, and influencing individual parts. The elective affinity of drugs for special functions and parts, is one of the best established facts in medicine. Not that drugs occasionally influence a special part or function, but that they invariably do it; and with the same conditions of life, they do it in an invariable manner. The reader will recognize that the human body is a very complex mechanism, and that the conditions of life are ever changing. If we had a constant body, both in structure and condition, the action of medicines would be constant, and could be absolutely predicted. As this is not so, it is the business of the physician to determine, as nearly as possible, similar conditions of life, and learning the action of remedies in these conditions, he may approximate certainty in prescription.

If, for instance, we study general disease, we learn that



may be wrong in its constituents, or by ad-  
duced foreign to it, or the rapidity and  
distribution (circulation) throughout the  
changed. The nervous system may suffer  
its three parts, brain, spinal cord, or symp-

If we have general disease, what do we  
certainly for remedies that influence the blood  
tion and circulation, and the nervous system.  
principal element of the disease is frequen-  
tation (rapid pulse), we would take ac-  
trum, because these remedies are known  
frequency, and give a better circulation.

trary, the circulation was impaired, we would  
remedy from the class of stimulants, es-  
which give strength to the circulation.

wrong of the blood in quality, we would  
remedy which would correct the wrong.  
blood lacked an acid, as shown by the de-  
we would give muriatic acid; if it wanted  
shown by the pale tongue, we would give  
soda; if pale and bluish, and the discha-  
body and the breath were offensive, we would  
rate of potash; if the tongue was deep-red  
or purple, tissues full, and evidently losing  
would give baptisia. If the tongue was v-

and change its character in the blood, and that would effect its removal by the natural outlets, the lungs, kidneys, skin and bowels.

The nervous system is studied in the same manner, and we find remedies that influence each part, and influence it in different ways. If there is excitation, we have means for its removal, as when we give gelsemium in determination of blood to the brain, and similar conditions of spinal cord and sympathetic, with excitation. If we have depression, with feeble circulation, we give belladonna, or possibly quinine or nux vomica. We have a long list of remedies that influence the sympathetic nervous system, and thus control the vegetative functions in the circulation of the blood, respiration, digestion and blood-making, nutrition, and waste and secretion.

As before remarked, many remedies expend their force on some particular organ or part, to the exclusion of other portions of the body. We do not know why they have these special affinities; suffice it for us that the fact is well proven. Thus we have remedies that specially influence the lungs, the stomach, the liver, the spleen, bowels, the kidneys, the skin, and the reproductive apparatus of both male and female. If the remedy is given in health, it goes there, and shows its influence in unpleasant sensations and change of function; if it is given in disease, it exerts a like influence, and when such influence is necessary for a cure, a cure results. Thus the person who prescribes needs to have an intelligent knowledge of the human body as a whole, and in its various parts, and should have so trained his senses that he is able to recognize changes from the standard of health. He should also know the action of the remedies he employs, not only as to the function or part on which they act, but the quality of this action as well. Then we compare the action of the drug with the condition of disease,

and we select that drug, which, in its action, opposes the processes of disease.

**EDUCATION OF THE SENSES.**—Whilst the reader may do but very little in the way of ministering to the sick, or giving remedies, he is interested in knowing how it may be done successfully. More than this, the training that we would give the educated physician should be given to every person, no matter what his vocation. A man or woman lives in and through the senses. All that is known of the surrounding world comes through them, and all the pleasures that we have in life is through and from them. A man's life, therefore, will be broad or narrow, profitable or unprofitable, in proportion as his senses are trained or educated.

If the senses, then, are the instruments by which we obtain knowledge, it will at once be patent to the reader that their development and goodness will be the measure of our ability and our attainments. Hence, the man of educated and acute senses will be far superior to and have every advantage over the man who has not been thus trained and developed.

Most persons seem to think that the human senses are natural, not acquired—that they are born to us, and not the result of education. This is a very great mistake, and a grave error to the physician. Man is born with an organism that, so to speak, has germinal capacities for use, and its future development is by normal use. The child at birth has perfect hands and arms, every bone, muscle, blood-vessel and nerve being there; but they are as yet wholly useless. Its feet and legs have all the parts of the adult, but it can not walk, or even wag its toes under the influence of the will. Its eyes are perfect, yet the images formed upon the retina are wholly without meaning, and might quite as well be a blank.

The child slowly learns to use its hands, and months pass before it can hold an object, and a still further time



before it can move the object in obedience to the will. We see it day by day learning to see, slowly taught by its surroundings. And the adaptation of the nether limbs to walking is the persistent work of the first twelve or sixteen months. Compare the child of these attainments of one year with the child of two years, and you see a wonderful difference. The education has been continually going on during this period, and with continued use in right directions comes increased development. At the third year there is further improvement, and thus, as we go on to the fifth, the tenth, the twentieth year, we observe a continued education of the senses, and a better development of them.

I want to call attention to the fact that we find every grade of development in different individuals, from the first year up to maturity, and that this development does not always depend upon the original capacity. A difference in use or in education, so to speak, gives different capacities. It is not in the initial or starting point, but in the method of progress, that gives the fully developed sense. If the child has been rightly directed, and the senses have been rightly used, they will have proportionate capacity.

Many who would admit that the human senses are acquired, think of them as being acquired very much as the man increases in stature and weight, and something essentially belonging to this period of growth. They conclude that the senses grow with the body, and attain maturity when it has reached the full size and stature of a man; and now a man, having his full capacity, will find neither increase nor diminution so long as he may live. They measure a man in all his parts in this way; his every function is now developed for life. A greater mistake could not be made.

The law of development is always in operation in the human body, as it is throughout the animal and vegetable world. *As any organ or part is rightly used, it grows in*

*capacity.* Not only in infancy, in childhood, up to adult years, but each and every year of a man's life to old age. It is more marked, of course, when the reproductive powers are active, but it is always a law of life. The man between thirty and forty years, will find that he still has the germs of a large capacity, which needs but the right use for development. He may grow legs, arms, body, chest, lungs, brain, the sense of touch, of taste, of smell, of hearing, of sight, if he will; all that is necessary is, that he should rightly use that he has.

Shakspeare makes his typical Dogberry say,

"To be a well-favored man is the gift of fortune;  
But to write and read comes by nature."

But however it may be with reading and writing, very surely acute sight, smell, taste, hearing, touch, do not come by nature. We all recollect the tedious process of education—how we slowly attained our A, B, C's, and what a work we had done when we could spell b-a ba, k-e-r ker, baker—and so on through, whether it has been little or much. This is the type of education, and this is the way it is obtained—little by little, and by continuous application.

But there is another view of the question, quite as important to many persons. The law is not only operative in the one direction—to increase functional capacity—but quite as much so in the other direction—to lessen or take away that we have. The part or organ disused loses its functional capacity, becomes atrophied, and finally loses the power of reproduction—is wholly gone. The Indian Faakar, who vows to hold his arms above his head, finds after years are passed, that they are no longer obedient to the will, are lost. This is the case with any part of the body—with the organs of special sense, and with the brain and its functional activities. It is the application in the human body of Christ's parable of the talents:

‘For the kingdom of heaven is as a man traveling to a far country, who called his own servants, and delivered unto them his goods. And unto one he gave five talents, to another two, and to another one; to every man according to his several ability; and straightway went on his journey. Then he that had received the five talents went and traded with the same, and made other five talents. And likewise he that had received two, he also gained other two. But he that had received one, went and digged in the earth and hid his lord’s money.”

The reader will recollect the application of the parable—the one who had used his talents found them increased; the one who buried his, had taken away from him that which he had. The Divine Teacher enunciated a law as wide as the universe, and as applicable to physical and mental growth, as to moral development. It is just as applicable to the training of the senses of the physician, as it is to the growth of the moral nature of man. The lesson is clear: if we want anything, we must work for it; if we will not work, we lose that we have.

Man has conscious life in his brain and through his senses. Take away his senses, and he has lost all communication with the world without. Through his senses he has pleasurable life, and it is deep and broad in proportion to their development. One would think that this would be sufficient incentive to their full development. But, unfortunately, men dislike work, not realizing that even this will prove a pleasure.

It is the continued and orderly exercise of parts that gives them increased capacity. Not by fits and starts, but continuously, day by day, week by week, month by month, year by year. The organs of special sense have in them a mechanism for skilled use, as well as for the gross purposes of life, and it is this skilled use we purpose to call forth in diagnosis.

I need hardly make a study here of the five senses, touch, sight, hearing, smell, taste, or of the methods of



educating them, for these will suggest themselves to every one. If we bear in mind that use strengthens, whilst abuse or disuse impairs them, we can hardly go wrong.

The education of the senses should be commenced in childhood and continue all the years of life. We purpose calling them into exercise whenever opportunity offers; we will feel all that is to be felt, see all that is to be seen, hear all that is to be heard, smell all that offers an odor for the nose, and taste all that will give pleasure, without an after result of pain. We would like to have hands as sensitive to impressions as the hands of the blind, capable of telling the physical properties of objects when touched. We would like to have eyes that would be constantly upon the alert, and capable of conveying correct impressions to the brain. We would like to have ears attuned to the harmonies of nature, at once a means of knowing and receiving pleasure. We would like to have all the enjoyment that comes from pleasant odors, and avoid all dangers to health shown by unpleasant odors. And we would like to have a sense of taste that would be to some extent a guard against injurious foods, as well as a constant source of pleasure. All these every person may have if he or she wants them; they come by continuous legitimate use, and they are lost by disuse.

#### SPECIFIC MEDICINES.

I am not so sure but the family will do better to study and use specific medicines in the small doses, rather than the ordinary remedies named. This method has been used to a considerable extent throughout this work, and yet I did not deem it best to confine myself or the reader to it. If one knows how to use a hot foot-bath and catnip tea, and does not know anything else well, these are the very best things for him. If one has nothing

t catnip tea and hot water, it is a most excellent thing know how to use them. So it is of the older class of medicines; the reader may know how to use them, or may be able to procure anything else.

I will give a list of some of the more common of the specific remedies here, pointing out the special symptoms calling for their use. This may be prefaced by the statement that in this practice it does not make any difference what a disease is called, for we are not guided by names, but by conditions as shown by symptoms. If we have the symptoms indicating a remedy we give it, no matter what may be the name of the disease. Thus, if we say that the *small, frequent* pulse calls for Aconite, we would give it alike in ague, in bilious fever, in typhoid fever, in scarlet fever or small-pox, in diarrhœa, in dysentery, or in cholera, and it will be of benefit in all. In this respect specific medication has greater simplicity than the common practice of medicine. But as it calls for closer study of disease and a better knowledge of remedies, the indolent or illy educated man will not like it.

These agents are all used in small doses, and I beg the reader to observe that the quantity *must* not be increased. Lessen it if you wish, but always give less than more. It is not quantity that we care so much about, as it is quality, and especially that we have the *right* remedy.

**VERATRUM VIRIDE.** (Tincture.)—We have two principal sedatives, Veratrum and Aconite, and the general indication for their use is frequency of pulse and increased temperature. As before remarked, it does not make any difference what the disease is called, or where it may be located, these symptoms call for the sedative. The reason for taking Veratrum in preference to Aconite is that the pulse is *full*, and the tissues are full.

As a local application we use it for the arrest of acute inflammations, as boils, felons and in erysipelas. In these cases, the part is painted with the tincture every three or four hours. For internal use we add ten drops

to four ounces of water, and give a teaspoonful every hour.

**ACONITE.** (Tincture of the root.)—This is the sedative in most common use, and the one we would recommend the family. It is the remedy for febrile symptoms, whether they have the mildness of a common cold, or the gravity of a typhoid fever. It is also the remedy, or one of the remedies in the larger number of inflammations, especially in the early stage. The frequent pulse, increased temperature, and excited nervous system, will be the prominent indications for its use. We say we prefer it to *Veratrum* when the pulse is *small*.

*Aconite* is one of the most certain remedies in croup, and also in quinsy. Associated with *Ipecac* it is the remedy for irritative diarrhœa, in the summer complaint of children, and in acute dysentery.

For the adult, we add five to ten drops to half a glass of water; for the child, one to five drops to half a glass of water, and give a teaspoonful every hour.

**GELSEMINUM.** (Tincture of the green root.)—The special use of *Gelseminum* is to relieve irritation of the nerve centers, especially the brain. If the face is flushed, the eyes bright, pupils contracted, head hot, and the patient restless, we prescribe this remedy with a sedative.

Add ten to twenty drops to half a glass of water, and give a teaspoonful every hour.

**BELLADONNA.** (Tincture of the leaves.)—This is the remedy for congestion, (sluggish circulation,) especially of the nerve centers. If the patient is dull and inclined to sleep, the eyes dull and heavy, pupils dilated, we give this remedy. In fever it is usually associated with a sedative, *Aconite* being the one selected in the majority of cases. *Belladonna* is also a prominent remedy in the treatment of scarlet fever, both as a means of prevention and cure. In the first case it has proven very successful, five drops being added to half a glass of water, and given in teaspoonful doses four times a day. In scarlet



rer, and some other diseases, the redness of the surface can be effaced by drawing the finger over it, leaving a white line, somewhat persistent; this would be an indication for the remedy in any case. It is also one of the remedies employed for whooping cough, and is the remedy for headache, when the pain is dull and heavy, and the patient feels drowsy.

In using Belladonna, we add five to ten drops to half glass of water, and give a teaspoonful every one to three hours.

**LOBELIA.** (Tincture of the seed.)—If we find a person suffering from a sense of weight and oppression in the chest, in the region of the heart, with a sense of anguish and fear of impending danger, Lobelia is the remedy. Give one-fourth to half a teaspoonful for a dose and repeat if necessary. Lobelia is the remedy in disease of the bronchial tubes and lungs of young children, when the breathing is difficult and marked rattling of mucus in the chest can be heard. I prefer to give it with a stimulant as, *R*, Tincture of Lobelia, ʒj.; Compound Tincture of Lavender, ʒiij.; Simple Syrup, ʒjss.; small doses, frequently repeated. But if such a preparation can not be had, put a teaspoonful of the tincture in a wine glass of water, sweeten it, and feed it to the child like catnip tea. Associated with some warm tea, Lobelia in small doses is an excellent remedy for measles. Its use as an emetic has already been considered in the first part of this work.

**RHUS TOXICODENDRON.** (Tincture of the leaves.)—This will not be used to any considerable extent by the family, but is an excellent remedy in the hands of the skilled physician. The indications for it are—frontal pain, extending to the eyes, especially of the left side, sharp stroke of pulse, bright flush on left cheek, or in spots on the surface, burning pain in a part, especially of the surface, and a peculiar redness of the papilla near the tip of the tongue.

inflammation of the lungs, and in rheumatic indications are—frontal pain, extending to the head, right cheek flushed, pain constant and without sharpness, pulse of good size and full, cough attended with lancinating pain, catarrh of the stomach, and general hyperaemia, a steady tensile ache.

We add five drops to half a glass of water, and give half a teaspoonful every hour.

**NUX VOMICA.** (Tincture of the seed.)—This is one of the most valuable of our remedies and its indications are clearly understood. As a rule, we do not give it when there is fever, indeed the opposite conditions are the indications. It is a prominent remedy in cases of nausea and vomiting, and if given in such cases it will rarely fail, if the conditions above be present. It is also the remedy for colic, or pain in the abdomen, and for the pain in which as a part there is an unpleasing sensation about the umbilicus. It is one of our best remedies for obstinate constipation, a drop being taken in water in the morning. And it is the remedy for the symptoms usually known as “bilious,” such as a yellow surface, puffy face, furred tongue, pain in the liver and in the shoulder.

For a child, we would add one drop to half a glass of water, and give half a teaspoonful to a tea-

omiting in irritation of the stomach, relieving irritation. It is the remedy for diarrhoea, the result of irritation, whether from cold or food. It is also the remedy for acute dysentery, in these cases being associated with the Aconite. It has proven almost a specific in inflammation of the lungs of children, with scanty secretion. It is also one of the prominent remedies in the treatment of cholera infantum or the "summer complaint" of children. It has also been used with good success to control hemorrhage from internal organs, especially uterine hemorrhage.

For a child, we would add two to five drops to half a glass of water; for an adult, ten to twenty drops; the dose being a teaspoonful every one or two hours.

**PHYLOACCA.** (Tincture of the fresh root.)—This is the remedy for sore mouth, both in children and adults. It has proven a most valuable remedy in the treatment of diphtheria, curing cases without other medicine. It is the remedy we think of when we find recent enlargement of the glands of the neck. It is the remedy for caked breasts, and for inflammation of the breasts or sore nipples in the early stage. In other cases, the indication for it is a pallid, somewhat leaden colored tongue, very little coated, but looking slick, as if covered with some glutinous material.

For a child, we would add five drops to half a glass of water, and give half a teaspoonful every one or two hours. For the adult, ten to thirty drops may be added to half a glass of water, giving teaspoonful doses. As a local application to the breast it is diluted with six to ten parts of water.

**MACROTYS.** (Tincture of the fresh root.)—This is the remedy first thought of in rheumatism and rheumatic neuralgia, and is usually associated with Aconite. It is peculiarly the remedy to remove unpleasant sensations and pain in the later months of pregnancy, and as I am well satisfied it makes labor easier, and more free from



accidents. It is also one of our most valued remedies to relieve painful menstruation, and promote the normal discharge.

We add from ten to sixty drops to half a glass of water, and give a teaspoonful every one to four hours, according to the character of the case.

**APOCYNUM.**—This is a remedy usually thought of in dropsy. The special indication for it in other cases is fullness of cellular tissue—œdema. It is one of the prominent remedies in rheumatism, rheumatic neuralgia, disease of joints, disease of mucous membranes, and always characterized by atony of the sympathetic nervous system—the special indications above named being present. We add gtt. v. to xv. to water, *℥iv.*; a teaspoonful every two hours.

**PULSATILLA.**—This is the remedy for “nervousness,” especially when associated with disease of the reproductive organs or function. Fear of impending danger, dizziness, nervous dysphagia, unrest, and tendency to look on the dark side, are among the indications. It exerts a special influence upon the reproductive organs of both male and female, controlling sexual excitement in both, and a prominent remedy to restore normal menstrual function, and to relieve some unpleasantness during gestation. Add gtt. v. to xxx. to water, *℥iv.*; a teaspoonful every two to four hours.

**BAPTISIA.**—This is one of our most important remedies and should have been in the first list. It is the remedy for cynache maligna, and for any disease that gives this peculiar odor. It is indicated by fullness of mucous membranes, tongue, fauces, pharynx, by deep coloration of tissue, not red—and also in typhoid disease by a continued moist pasty fur on a tongue of normal redness. It is an epidemic remedy, and will cure typhoid fever, typhoid dysentery, typhoid pneumonia, typhoid sore throat, typho-malarial fever—or indeed typhoid anything.

℥i. v. to water, ℥iv.; a teaspoonful every one or two hours.

**COLLINSONIA.**—This is the remedy for hemorrhoids, with a sense of heat, burning, or constriction in the rectum. It is a remedy for diseases of digestion, functional diseases of the urinary apparatus, and diseases of the reproductive organs, if the above symptoms present. It is a remedy in diseases of the respiratory apparatus, when the irritation points in the larynx, with change in the voice, or inability to use it without irritation. Add ℥i. v. to xx. to water, ℥iv.; a teaspoonful every two to four hours.

**DROSERIA.**—This is the remedy for the cough of measles, and all coughs that resemble it; and in many cases of whooping cough. Add gtt. v. to xxx. to water, ℥iv.; a teaspoonful every four hours.

**CHELIDONIUM.**—Whilst in some seasons, and in some localities, this will be a useful remedy, in other seasons and places it will hardly be called into requisition. Fullness of right hypochondrium, dull pain in the shoulders, and a brownish sallow complexion, with dull leaden tongue, are the indications for it. Add ten to twenty drops to water four ounces; a teaspoonful every three hours.

**CUPRUM.**—Copper is the blood-maker after exhaustive discharges, as uterine hemorrhage, hemorrhage from the lungs and kidneys, profuse diarrhoeal discharges, etc. It is also a remedy in those cases of debility simulating those just named. In Asiatic cholera and some choleraic diseases, these appearances will present with or before the first discharges—in these Copper is a remedy. In the menstrual lesions, we observe the same symptoms, and use Copper. I use Rademacher's Tincture, ten drops four ounces of water; a teaspoonful three or four times a day.

**PODOPHYLLIN.**—This is a stimulant to the solar sympathetic. It is indicated by *full* tissues, *full* veins, *full*

tongue, and by dirty pallor of su  
season I should carry granules m  
1-20, Phosphate of Hydrastia, gr  
and in malarial localities, when th  
drug is desired, pi ls of  $\frac{1}{2}$  gr. Or  
one hundred for the summer dis  
need hardly say I should prescribe  
ing the above indications.

QUINIA.—The use of this drug i  
known as an antiperiodic and r  
need but give the condition in wh  
to act kindly. A *soft*, open pul  
cleaning tongue, and absence of r

FERRUM.—As iron is in such c  
should know how to use it. I  
bluish coloration, and especially v  
in the back of the head. Rad  
Tincture of Muriate, are the bes  
in some seasons metallic iron will  
drops to four ounces of water; a  
every one, two, or three hours.

CARBO VEG.—This is the reme  
rhage from any part of the b  
hemorrhage in typhoid fever, an  
hemorrhagic condition in all typ  
used it in uterine hemorrhage  
hemorrhage from the lungs, bow  
passages, with most satisfactory r  
remedy in typhoid conditions, w  
tumid abdomen. I employ the fi  
(one to ten). Dose one grain.

CACTUS.—The common idea i  
remedy for heart disease, and so it  
*with feebleness*, the quick movem  
But I do not restrict its administ  
disease—given the quick movem  
and I would prescribe it in a case



unctional disease. The dose will vary from one  
 hm to five drops in four ounces of water; a tea-  
 nful every four hours, or more frequently in the  
 l dose.

pis.—The tincture of the honey-bee is an excellent  
 dy if the diagnosis is well made. Given the peculiar  
 ing pain that one associates with the sting of the  
 and I should think of this remedy. Burning pain  
 itching in the urethra, in the bladder, or any part  
 e surface is met by Apis. I usually add five drops  
 our ounces of water; a teaspoonful every two or  
 e hours.

IBURNUM.—This is one of our most valuable remedies,  
 should have a wide use. It is *the* remedy in habitual  
 tion, in cases where the pregnant woman suffers  
 s at the periods for the monthly flow, for tensive,  
 ing pains in the last weeks of pregnancy, for severe  
 ing after-pains, and in many cases of dysmenorrhœa-  
 as other uses, but we have not space to give them a  
 ideration here. I add ten drops to four ounces of  
 r; and give a teaspoonful every one, two, or three  
 rs.

ICTA.—This is a remedy I value highly, and in some  
 ons it has quite an extended use. It is a remedy for  
 gh, when there is pain in the chest extending to the  
 ilders, the neck or back of the head. The special  
 ptom indicating it, is pain in the shoulders (usually  
 right) extending up the neck to the occiput; with  
 pain marked, it has seemed to me it would cure  
 thing. This winter it has been a prominent remedy  
 the cure of rheumatism.

UPATORIUM.—Of course if we were using this agent  
 he olden way, we could hardly put it in a two drachm  
 . I administer it in the small doses in cases of fever  
 inflammation where there is marked pain in the bones,  
 throbbing pain in the head, pulse full, but without

the dose too large—one grain to four ounces of water is sufficiently strong—dose a teaspoonful.

**ERYNGIUM.**—This is one of our most certain remedies for disease of the bladder, urethra, prostate gland, and some wrongs of the reproductive organs of women. The indications are burning pain with tenesmus, in the bladder or urethra. It has other uses, but I prefer to reserve it for this.

**NITRATE OF SODA.**—I employ Nitrate of Soda in cases similar to those calling for Nitric Acid. Violet color of the tongue is the indication, and whilst I should use Nitric Acid if the color was deep, I should use Nitrate of Soda if the color was light.

**MURIATIC ACID.**—This remedy is indicated by the *deep-redness* of the tongue, contracted, with coatings of a brownish color, inclined to grow darker as the disease advances. It is added to water, so as to make a pleasant acid drink, and given *ad libitum*.

**NITRIC ACID.**—This remedy is not employed for the general purposes of an acid. It is a typical *specific*, having a positive indication and a most certain action. The indication is a *violet* coloration of tongue, and of other parts where blood shows freely. In the best marked cases the violet color seems but a film upon the surface, and you seem to look through it to the natural, or rather deeper than natural color of parts below.

I usually prescribe it in the following proportion, when I send the prescription to a drug store:  $\mathcal{R}$  Nitric Acid, gtt. x. to gtt. xx.; Water, Syrup, aa.  $\mathfrak{z}\text{j}$ .; a teaspoonful in water every three hours.

**SULPHUROUS ACID.**—This is a feeble acid, and is not used for the general purposes of an acid. It is one of our group of antiseptics, and is indicated by full tissues and *dirty* color of coatings of tongue, and of other secretions and excretions. The dose is from five to thirty drops in a little water.

## PART VII.

### NOTES ON NURSING:

#### WHAT IT IS AND WHAT IT IS NOT.

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BY FLORENCE NIGHTINGALE.

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**SHALL** we begin by taking it as a general principle, that disease, at some period or other of its course, is more less a reparative process, not necessarily accompanied with suffering—an effort of nature to remedy a process of poisoning or of decay, which has taken place weeks, months, sometimes years beforehand, unnoticed, the termination of the disease being then, while the antecedent process was going on, determined?

If we accept this as a general principle, we shall be immediately met with anecdotes and instances to prove the contrary. Just so if we were to take, as a principle, all the climates of the earth are meant to be made habitable for man, by the efforts of man—the objection would be immediately raised, Will the top of Mount Blanc ever be made habitable? Our answer would be, it will be many thousands of years before we have reached the bottom of Mount Blanc in making the earth healthy. Wait till we have reached the bottom before we discuss the top.

In watching diseases, both in private houses and in public hospitals, the thing which strikes the experienced observer most forcibly is this, that the symptoms or the sufferings generally considered to be inevitable and incident to the disease, are very often not symptoms of the disease at all, but of something quite different—of the



may with all that pain and suffering, which in patients are the symptoms, not of their disease, but of the absence of one or all of the above-mentioned essentials to the success of nature's reparative processes, we shall then know what are the symptoms of and the suffering inseparable from the disease.

Another and the commonest exclamation which will be constantly made, is, Would you do nothing, then, in cholera, fever, etc.?—so deep-rooted and universal is the conviction that to give medicine is to be doing something, or rather anything; to give air, warmth, cleanliness, etc., is to do nothing. The reply is, that in these, and many other similar diseases, the exact value of particular remedies and modes of treatment is by no means ascertained, while there is universal experience as to the extreme importance of careful nursing in determining the issue of the disease.

II. The very elements of what constitutes good nursing are as little understood for the well as for the sick. The same laws of health or of nursing, for they are in reality the same, obtain among the well as among the sick. The weakening of them produces only a less violent consequence among the former than among the latter—and this sometimes, not always.

It is constantly objected, "But how can I obtain this medical knowledge? I am not a doctor. I must leave this to doctors."

Oh, mothers of families! You who say this, do you know that one in every seven infants in this civilized land of England perishes before it is one year old? That, in London, two in every five die before they are five years old? and in the other great cities of England, nearly one out of two? \* "The life duration of tender babies," as

\* Upon this fact the most wonderful deductions have been strung. For a long time an announcement something like the following has been going the round of the papers: "More than 25,000 children die every year in London under ten years of age; therefore we want a children's hospital." This spring there was a prospectus issued, and divers other means taken to this effect: "There

some Saturn, turned analytical chemist, says, "is the most delicate test" of sanitary conditions. Is all this premature suffering and death necessary? Or did nature intend mothers to be always accompanied by doctors? Or is it better to learn the piano-forte than to learn the laws which subserve the preservation of offspring?

Macaulay somewhere says, that it is extraordinary that, whereas the laws of the motions of the heavenly bodies, far removed as they are from us, are perfectly well understood, the laws of the human mind, which are under our observation all day and every day are no better understood than they were two thousand years ago.

But how much more extraordinary is it, that, what we might call the coxcombs of education, *e. g.*, the elements of astronomy, are now taught to every school-girl, neither mothers of families of any class, nor school-mistresses of any class, nor nurses of children, nor nurses of hospitals, are taught anything about those laws which God has assigned to the relations of our bodies with the world in which he has put them. In other words, the laws which make these bodies, into which He has put our minds, healthy or unhealthy organs of those minds, are all but

is a great want of sanitary knowledge in women; therefore we want a women's hospital." Now, both the above facts are too sadly true. But what is the deduction? The causes of the enormous child mortality are perfectly well known; they are chiefly want of cleanliness, want of ventilation, want of whitewashing; in one word, defective household hygiene. The remedies are just as well known; and among them is certainly not the establishment of a child's hospital. This may be a want; just as there may be a want of hospital room for adults. But the Registrar General would certainly never think of giving us, as a cause for the high rate of child mortality in (say) Liverpool, that there was not sufficient hospital room for children; nor would he urge upon us, as a remedy, to found an hospital for them.

Again, women, and the best women, are woefully deficient in sanitary knowledge; although it is to women that we must look, first and last, for its application, as far as household hygiene is concerned. But who would ever think of citing the institution of a women's hospital as the way to cure this want?

We have it, indeed, upon very high authority, that there is some fear but hospitals, as they have been hitherto, may not have generally increased, rather than diminished, the rate of mortality: especially child mortality.

rent. Not but that these laws—the laws of life—are certain measure understood; but not even mothers can it worth their while to study them—to study how to give their children healthy existences. They call it medical or physiological knowledge, fit only for doctors. Another objection.

We are constantly told, “But the circumstances which govern our children’s health are beyond our control. What can we do with winds? There is the east wind. What people can tell before they get up in the morning whether the wind is in the east.”

To this one can answer with more certainty than to the former objections. Who is it who knows when the wind is in the east? Not the Highland drover, certainly, exposed to the east wind; but the young lady who is worn out with the want of exposure to the fresh air, to sunlight, &c. Put the latter under as good sanitary circumstances as the former, and she too will not know when the wind is in the east.

### *I. VENTILATION AND WARMING.*

The very first canon of nursing, the first and the last thing upon which a nurse’s attention must be fixed, the first essential to a patient, without which all the rest you can do for him is as nothing, with which I had almost said you may leave all the rest alone, is this: To KEEP THE AIR THE PATIENT BREATHES AS PURE AS THE EXTERNAL AIR, WITHOUT CHILLING HIM. Yet what is so little attended to? Even where it is thought of at all, the most extraordinary misconceptions reign about it. Even in admitting air into the patient’s room or ward, few people ever think where that air comes from. It may come from a corridor into which other wards are ventilated, from a hall, always unaired, always full of the fumes of gas, dinner, of various kinds of mustiness; from an underground kitchen, sink, wash-house, water-closet, or even, as I myself have had sorrow-



stagnant as any from a hall or corridor.

Again, a thing I have often seen both in houses and institutions. A room remains uninhabited; the place is carefully fastened up with a board over the door; the shutters are never opened; probably the shutters are never opened; probably the shutters are shut; perhaps some kind of stores are kept in the room, so that no breath of fresh air can by possibility enter the room, nor any ray of sun. The air is as stale and corrupt as it can by possibility be made, and is ripe to breed small-pox, scarlet fever, diphtheria, or anything else you please\*.

Yet the nursery, ward or sick-room adjacent to such a room, is not actively aired (?) by having the door open into the fresh room. Or children will be put into that room, after the previous preparation, to sleep.

A short time ago a man walked into a room in Queen Square, and cut the throat of a poor creature, sitting by the fire. The murderer was not punished for the act, but simply said, "It's all right." He was mad.

But in our case, the extraordinary thing is that the doctor says, "It's all right," and that we are satisfied, although we "nose" the murderers, in the same unsunned room, the scarlet fever which is bred there, or the fever and hospital gangrene which

crowded beds of a hospital ward, we say, "It's

proper supply of windows, and a proper supply of open fire places, fresh air is comparatively easy when your patient or patients are in bed. Never of open windows then. People don't catch cold. This is a popular fallacy. With proper bed-hot bottles, if necessary, you can always keep warm in bed, and well ventilate him at the same

careless nurse, be her rank and education what it stop up every cranny, and keep a hot-house heat patient is in bed; and if he is able to get up, is comparatively unprotected. The time when he cold (and there are many ways of taking cold, cold in the nose) is when they first get up after cold exhaustion of dressing and of having had the cooled by many hours, perhaps days, in bed, and rendered more incapable of reaction. Then the temperature which refreshes the patient in bed may be patient just risen. And common sense will tell that while purity of air is essential, a temperature must be secured which shall not chill the patient. The best that can be expected will be a feverish

the air within as pure as the air without, it is necessary, as often appears to be thought, to make it

afternoon again, without care, the patient, whose powers have then risen, often finds the room as close and oppressive as he found it cold in the morning. Yet he will be terrified if a window is opened.\*

It is desirable that the windows in a sick room should be such that the patient, if he can move about, be able to open and shut them easily. In fact, the sick room is very seldom kept aired if this is not the case. Few people have any perception of what is a healthy atmosphere. The sick man often says, "This room where I spend twenty-two

I know an intelligent, humane house surgeon, who makes a practice of keeping the ward windows open. The physicians and surgeons invariably close them while going their rounds, and the house surgeon very properly as invariably opens them whenever the doctors have turned their backs.

In a little book on nursing, published a short time ago, we are told that, "with proper care it is very seldom that the windows cannot be opened for a few minutes twice in the day to admit fresh air from without." I should think not; nor twice in the hour either. It only shows how little the subject has been considered.

Of all methods of keeping the patient warm, the very worst certainly is to depend for heat on the breath and bodies of the sick. I have known a medical officer keep his ward windows hermetically closed; thus exposing the sick to all the dangers of an infected atmosphere, because he was afraid that, by admitting fresh air, the temperature of the ward would be too much lowered. This is a destructive fallacy.

To attempt to keep a ward warm at the expense of making the sick repeatedly breathe their own hot, humid, putrescing atmosphere, is a certain way to delay recovery or to destroy life.

Do you ever go into the bed-rooms of any persons of any class, whether they contain one, two or twenty people, whether they hold sick or well, at night, or before the windows are opened in the morning, and ever find the air anything but unwholesomely close and foul? And why should it be so? And of how much importance it is that it should not be so. During sleep, the human body, even when in health, is far more injured by the influence of foul air than when awake. Why can't you keep the air all night, then, as pure as the air without, in the rooms you

hours out of the twenty-four is fresher than the other where I spend because here I can manage the windows myself." And it



up in? But for this, you must have sufficient outlet for impure air you make yourselves to go out; sufficient for the pure air from without to come in. You must have open chimneys, open windows or ventilators; no heavy curtains round your beds; no shutters or curtains to your windows; none of the contrivances by which you undermine your own health, or destroy the chances of recovery of your sick.\*

A careful nurse will keep a constant watch over her work, especially weak, protracted, and collapsed cases, to guard against the effects of the loss of vital heat by the patient himself. In certain diseased states much less heat is produced than in health; and there is a constant tendency to the decline and ultimate extinction of the vital powers by the call made upon them to sustain the heat of the body. Cases where this occurs should be watched

\*Dr. Angus Smith's air test, if it could be made of simpler application, would be invaluable to use in every sleeping and sick room. Just as without the use of a thermometer no nurse should ever put a patient into a bath, so could no nurse, or mother, or superintendent, be without the air test in any ward, nursery or sleeping room. If the main function of a nurse is to maintain the air within the room as fresh as the air without, without lowering the temperature, then she should always be provided with a thermometer which indicates the temperature, with an air test which indicates the organic matter in the air. But to be used, the latter must be made as simple a little instrument as the former, and both should be self-registering. The senses of nurses and mothers become so dulled to foul air, that they are perfectly unconscious of what an atmosphere they have let their children, patients or charges sleep in. But if the tell-tale air test were to exhibit in the morning, both to nurses and patients, and to the superior officer going round, what the atmosphere has been during the night, I question if any greater security could be afforded against a recurrence of the misdemeanor.

And oh, the crowded national school, where so many children's epidemics have their origin, what a tale its air test would tell. We should have parents saying, and saying rightly, "I will not send my child to that school, the air test stands at 'Horrid.'" And the dormitories of our great boarding schools! Scarlet fever would be no more ascribed to contagion, but to its right cause, the air test standing at "Foul."

We should hear no longer of "Mysterious Dispensations," and of "Plague and Pestilence," being "in God's hands," when, so far as we know, He has put them into our own. The little air test would both betray the cause of these pestilences, and call upon us to remedy it.

of warm blankets, with some warm drinks, & use of until the temperature is restored. be, if necessary, replenished. Patients are in the latter stages of disease from want of such simple precautions. The nurse may alter the patient's diet, or to his medicine, or to the dose of stimulant which she is directed to give. The patient is all the while sinking from want of external warmth. Such cases happen at the height of summer. This fatal case is apt to occur toward early morning, at the lowest temperature of the twenty-four hours, and when the effect of the preceding day's disease is still present.

Generally speaking, you may expect that patients will suffer cold much more in the morning than in the evening. The vital powers are much lower in the morning, and the patient is more feverish at night, with burning hands and feet, and almost sure to be chilly and shivering in the morning. But nurses are very fond of heating the patient at night, and of neglecting it in the morning. I should reverse the matter.

All these things require common sense. Perhaps, in no one single thing is so little shown, in all ranks, as in nursing.\*

\* With private sick, I think, but certainly with hospital patients, should never be satisfied as to the freshness of their atmosphere, until they feel the air gently moving over her face, when still.

The extraordinary confusion between cold and ventilation, even in the minds of well-educated people, illustrates this. To make a room cold is by no means necessarily to ventilate it. Nor is it at all necessary, in order to ventilate a room, to chill it. Yet, if a nurse finds a room close, she will let out the fire, thereby making it closer, or she will open the door into a cold room, without a fire, or an open window in it, by way of improving the ventilation. The safest atmosphere of all for a patient is a good fire and an open window, excepting in extremes of temperature; (yet no nurse can ever be made to understand this.) To ventilate a small room without draughts of course requires more care than to ventilate a large one.

Another extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul night air from within. Most people prefer the latter. An unaccountable choice. What will they say if it is proved to be true that fully one half of all the disease we suffer from, is occasioned by people sleeping with their windows shut? An open window most nights in the year can never hurt any one. This is not to say that light is not necessary for recovery. In great cities, night air is often the best and purest air to be had in the twenty-four hours. I could better understand in towns shutting the windows during the day than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to making night the best time for airing the patients. One of our highest medical authorities on consumption and climate has told me that the air in London is never so good as after ten o'clock at night.

Always air your room, then, from the outside air, if possible. Windows are made to open; doors are made to shut—a truth which seems extremely difficult of apprehension. I have seen a careful nurse airing her patient's

Neither, of course, should a patient, while being washed or in any way exposed, remain in the draught of an open window or door.



room through the door, near to which were two gas-lights, (each of which consumes as much air as eleven men,) a kitchen, a corridor, the composition of the atmosphere in which consisted of gas, paint, foul air, never changed, full of effluvia, including a current of sewer air from an ill-placed sink, ascending in a continual stream by a well-staircase, and discharging themselves constantly into the patient's room. The window of the said room if opened, was all that was desirable to air it. Every room must be aired from without—every passage from without. But the fewer passages there are in a hospital the better.

If we are to preserve the air within as pure as the air without, it is needless to say that the chimney must not smoke. Almost all smoky chimneys can be cured—from the bottom, not from the top. Often it is only necessary to have an inlet for air to supply the fire, which is feeding itself, for want of this, from its own chimney. On the other hand, almost all chimneys can be made to smoke by a careless nurse, who lets the fire get low and then overwhelms it with coal—not, as we verily believe, in order to spare herself trouble, (for very rare is unkindness to the sick,) but from not thinking what she is about.

In laying down the principle that the first object of the nurse must be to keep the air breathed by her patient as pure as the air without, it must not be forgotten that every thing in the room which can give off effluvia, besides the patient, evaporates itself into his air; and it follows that there ought to be nothing in the room, excepting him, which can give off effluvia or moisture. Out of all damp towels, etc., which become dry in the room, the damp, of course, goes into the patient's air. Yet this "of course" seems as little thought of, as if it were an obsolete fiction. How very seldom you see a nurse who acknowledges by her practice that nothing at all ought to be aired in the patient's room, that nothing at all ought to

cooked at the patient's fire! Indeed, the arrangements often make this rule impossible to observe.

If the nurse be a very careful one, she will, when the patient leaves his bed, but not his room, open the sheets, and throw the bed-clothes back, in order to air his bed. And she will spread the wet towels or flannels carefully out upon a horse, in order to dry them. Now, either these bed-clothes and towels are not dried and aired, or they dry and air themselves into the patient's air.\* And whether the damp and effluvia do him most harm in his room or in his bed, I leave to you to determine, for I cannot. Even in health people cannot repeatedly breathe air in which they live with impunity, on account of its becoming charged with unwholesome matter from the lungs and skin. In disease where everything given off from the body is highly noxious and dangerous, not only must there be plenty of ventilation to carry off the effluvia, but everything which the patient passes must be instantly removed away; as being more noxious than even the emanations from the sick.

Of the fatal effects of the effluvia from the excreta it would seem unnecessary to speak, were they not so constantly neglected. Concealing the utensils behind the valance to the bed seems all the precaution which is thought necessary for safety in private nursing. Did you but think for one moment of the atmosphere under that bed, the saturation of the under side of the mattress with the warm evaporations, you would be startled and frightened too!

The use of any chamber utensil *without a lid*\* should

\* But never, never should the possession of this indispensable lid confirm you in the abominable practice of letting the chamber utensil remain in a patient's room unemptied, except once in the twenty-four hours, i. e., when the bed is made. Yes, impossible as it may appear, I have known the best and most attentive nurses guilty of this; aye, and have known, too, a patient afflicted with severe diarrhoea for ten days, and the nurse (a very good one) not know of it, because the chamber utensil (one with a lid) was emptied only once in twenty-four hours, and that by the housemaid who came in and made the patient's bed every evening. As well might you have a sewer under



be utterly abolished, whether among sick or well, can easily convince yourself of the necessity of this rule, by taking one with a lid, and examining underside of that lid. It will be found always covered whenever the utensil is not empty, by condensed, sive moisture. Where does that go when there is

Earthenware, or, if there is any wood, highly polished and varnished wood, are the only materials fit for patient utensils. The very lid of the old abominable close-enough to breed a pestilence. It becomes saturated with offensive matter, which scouring is only wanted to get out. I prefer an earthenware lid, as being always clean. But there are various good new-fashioned arrangements.

A slop-pail should never be brought into a sick room. It should be a rule invariable, rather more important in the private house than elsewhere, that the utensil should be carried directly to the water-closet, emptied, rinsed there, and brought back. There should always be water and a cock in every water-closet for rinsing, even if there is not, you must carry water there with you. I have actually seen, in the private sick room, utensils emptied into the foot-pan, and put back under the bed. I can hardly say which is most abominable, whether to do this or to rinse the utensil in the room. In the best hospitals it is now a rule that a slop-pail shall ever be brought into the wards, but that

the room, or think that in a water-closet the plug need be pulled up every day. Also take care that your lid, as well as your utensil, be always thoroughly rinsed.

If a nurse declines to do these kinds of things for her patient, "it is not her business," I should say that nursing was not her calling. I have seen surgical "sisters," women whose hands were worth to them two guineas a week, down upon their knees scouring a room or hut, because they thought it otherwise not fit for their patients to go into. I am far from saying nurses to scour. It is a waste of power. But I do say that they should have the true nurse-calling—the good of their sick first, and second consideration what it was their "place" to do; and that women, whether for the housemaid to do this, or for the charwoman to do that, who have patients suffering, have not the making of a nurse in them.



is shall be carried direct to be emptied and rinsed at proper place. I would it were so in the private house. No one ever depend upon fumigations, "disinfecting" and the like, for purifying the air. The offensive, not its smell, must be removed. A celebrated medical writer began one day, "Fumigations, gentlemen, are of essential importance; they make such an abominable nuisance that they compel you to open the window." I wish the disinfecting fluids invented made such an "abominable smell" that they forced you to admit fresh air. It would be a useful invention.

## II. HEALTH OF HOUSES.\*

There are five essential points in securing the health of houses:

1. Pure air.
2. Pure water.
3. Efficient drainage.
4. Cleanliness.
5. Light.

Without these, no house can be healthy. And it will be healthy just in proportion as they are deficient.

To have pure air, let your house be so constructed as that the outer atmosphere shall find its way with ease to every corner of it. House architects hardly ever consider

The object in building a house is to obtain the

the health of carriages, especially close carriages, is not of sufficient importance to mention here, otherwise than cursorily. Children, who are the most delicate test of sanitary conditions, generally can not sit in a close carriage without being sick; and very lucky for them that it is a close carriage, with the horse-hair cushions and linings always saturated with organic matter, if to this be added the windows up, is one of the most unhealthy of human receptacles. The idea of taking an airing in it, is very preposterous. Dr. Angus Smith has shown that a crowded railway carriage, which goes at the rate of thirty miles an hour, is as unwholesome as a close carriage, or as a back yard in one of the most unhealthy streets in Manchester.

largest interest for the money, not to save doctors' bills to the tenants. But, if tenants should ever become so wise as to refuse to occupy unhealthy constructed houses, and if insurance companies should ever come to understand their interest so thoroughly as to pay a sanitary surveyor to look after the houses where their clients live, speculative architects would speedily be brought to their senses. As it is, they build what pays best. And there are always people foolish enough to take the houses they build. And if in the course of time the families die off, as is so often the case, no body ever thinks of blaming any but Providence\* for the result. Ill-informed medical men aid in sustaining the delusion, by laying the blame on "current contagions." Badly constructed houses do for the healthy what badly constructed hospitals do for the sick. Once insure that the air in a house is stagnant, and sickness is certain to follow.

2. Pure water is more generally introduced into houses than it used to be, thanks to the exertions of the sanitary reformers. Within the last few years, a large part of London was in the daily habit of using water polluted by the drainage of its sewers and water-closets. This has happily been remedied. But, in many parts of the country, well-water of a very impure kind is used for domestic purposes. And when epidemic disease shows itself, persons using such water are almost sure to suffer.

3. It would be curious to ascertain by inspection, how many houses in London are really well drained. Many people would say, surely all or most of them. But many people have no idea in what good drainage consists. They think that a sewer in the street, and a pipe leading to it

\* God lays down certain physical laws. Upon His carrying out such laws depends our responsibility (that much abused word), for how could we have any responsibility for actions, the results of which we could not foresee, which would be the case if the carrying out of His laws were not certain? Yet we seem to be continually expecting that He will work a miracle—i. e., break His own laws expressly to relieve us of responsibility.

n the house, is good drainage. All the while the er may be nothing but a laboratory from which epidemic disease and ill health is being distilled into the use. No house, with any untrapped drain-pipe communicating immediately with a sewer, whether it be from ter-closet, sink, or gully-grate, can ever be healthy. A untrapped sink may at any time spread fever or pyæmia among the inmates of a palace.

The ordinary oblong sink is an abomination. That flat surface of stone, which is always left wet, is always haling into the air. I have known whole houses and hospitals smell of the sink. I have met just as strong a stream of sewer air coming up the back staircase of a grand London house from the sink, as I have ever met at Cuttari; and I have seen the rooms in that house all ventilated by the open doors, and the passages all unventilated by the closed windows, in order that as much of the sewer air as possible might be conducted into and retained in the bed-rooms. It is wonderful.

Another great evil in house construction is carrying drains underneath the house. Such drains are never safe. All house drains should begin and end outside the walls. Every people will readily admit, as a theory, the importance of these things. But how few are there who can intelligently trace disease in their households to such causes! Is it not a fact, that when scarlet fever, measles, small-pox appears among the children, the very first thought which occurs is, "where" the children can have caught the disease? And the parents immediately run over in their minds all the families with whom they may have been. They never think of looking at home for the source of the mischief. If a neighbor's child is seized with small-pox, the first question which occurs is, whether it had been vaccinated. No one would under-value vaccination; but it becomes of doubtful benefit to society when it leads people to look abroad for the source of evils which exist at home.



4. Without cleanliness, within and without your house, ventilation is comparatively useless. In certain foul districts of London, poor people used to object to open their windows and doors because of the foul smells that came in. Rich people like to have their stables and dunghill near their houses. But does it ever occur to them that with many arrangements of this kind it would be safer to keep the windows shut than open? You can not have the air of the house pure with dung heaps under the windows. These are common all over London. And yet people are surprised that their children, brought up in large, "well aired" nurseries and bed-rooms, suffer from children's epidemics. If they studied nature's laws in the matter of children's health, they would not be so surprised.

There are other ways of having filth inside a house beside having dirt in heaps. Old papered walls of years' standing, dirty carpets, uncleansed furniture, are just as ready sources of impurity to the air as if there were a dung heap in the basement. People are so unaccustomed from education and habits to consider how to make a home healthy, that they either never think of it at all, and take every disease as a matter of course, to be "resigned to" when it comes "as from the hand of Providence;" or if they ever entertain the idea of preserving the health of their household as a duty, they are very apt to commit all kinds of "negligences and ignorances" in performing it.

5. A dark house is always an unhealthy house, always an ill-aired house, always a dirty house. Want of light stops growth, and promotes scrofula, rickets, etc., among the children.

People lose their health in a dark house, and if they get ill, they can not get well again in it. More will be said about this farther on.

Three out of many "negligences and ignorances" in managing the health of houses generally, I will here mention as specimens: 1. That the female head in charge of

my building does not think it necessary to visit every hole and corner of it every day. How can she expect those who are under her to be more careful to maintain her house in a healthy condition than she who is in charge of ? 2. That it is not considered essential to air, to sun, and to clean rooms while uninhabited; which is simply ignoring the first elementary notion of sanitary things, and laying the ground ready for all kinds of diseases. 3. That the window, and one window, is considered enough to air a room. Have you never observed that any room, without a fire-place, is always close? And, if you have a fire-place, would you cram it up not only with a chimney-board, but perhaps with a great wisp of brown paper, in the throat of the chimney—to prevent the soot from coming down, you say? If your chimney is foul, sweep it; but don't expect that you can ever air a room with only one aperture; don't suppose that to shut up a room, is the way to keep it clean. It is the best way to foul the room and all that is in it. Don't imagine that if you, who are in charge, don't look to all these things yourself, those under you will be more careful than you are. It appears as if the part of a mistress now is to complain of her servants, and to accept their excuses—not to show them how there need be neither complaints made nor excuses.

But again, to look to all these things yourself does not mean to do them yourself. "I always open the windows," the head in charge often says. If you do it, it is by so much the better, certainly, than if it were not done at all. But can you not insure that it is done when not done by yourself? Can you insure that it is not undone when your back is turned? This is what being "in charge" means; and a very important meaning it is, too. The former only implies that just what you can do with your own hands is done; the latter that what ought to be done is always done.

And now, you think these things trifles, or at least exaggerated. But what you "think" or what I "think"



matters little. Let us see what God thinks of God always justifies his ways. While we are this he has been teaching. I have known cases of pyæmia quite as severe in handsome private houses as any of the worst hospitals, and from the same cause foul air. Yet nobody learned the lesson; nobody learned *anything* at all from it. They went on *thinking*—that the sufferer had scratched his thumb, or that singular that “all the servants” had “whitlows,” or that something was “much about this year; there is sickness in our house.” This is a favorite mode of thought—leading not to inquire what is the cause of these general “whitlows,” but to stifle inquiry. In what sense is “sickness” being “always” a justification of its being “there” at all?

I will tell you what was the cause of this pyæmia being in that large private house; it was that sewer air from an ill-placed sink was carefully carried into all the rooms by sedulously opening all the doors and closing all the passage windows. It was that the slops were emptied into the foot pans; it was that the sills were never properly rinsed; it was that the crockery was rinsed with dirty water; it was that the beds were never properly shaken, aired, picked to pieces and changed. It was that the carpets and curtains were always musty; it was that the furniture was always covered with dust; it was that the papered walls were saturated with damp; it was that the floors were never cleaned; it was that the uninhabited rooms were never sunned, or cleared and aired; it was that the cupboards were always reeking of foul air; it was that the windows were always shut up at night; it was that no window was systematically opened even in the day, or that the right window was not opened. A person gasping for air might open a window for himself; but the servants were not taught to open the windows, to shake the doors; or they opened the windows upon a dan-



tween high walls, not upon the airier court; or they opened the room doors into the unaired halls and passages, by way of airing the rooms. Now all this is not theory, but fact. In that handsome house I have known one summer three cases of hospital pyæmia, one of plebitis, two of consumptive cough—all the *immediate* products of foul air. When, in temperate climates, a house is more unhealthy in summer than in winter, it is certain sign of something wrong. Yet nobody learns the lesson. Yes, God always justifies his ways. He is teaching while you are not learning. This poor body sees his finger, that one loses his life; and all from the most easily preventible causes.\*

The houses of the grandmothers and great-grandmothers of this generation, at least the country houses, with front door and back door always standing open, winter and summer, and a thorough draught always blowing through, with all the scrubbing, and cleaning, and polishing, and scouring which used to go on, the grandmothers, and still more the great-grandmothers, always out of doors, and never with a bonnet on, except to go to church—these things entirely account for the fact so often seen of a great-grandmother, who was a tower of physical vigor descending into a grandmother perhaps a little less vigorous, but still sound as a bell and healthy to the core, into a mother languid and confined to her carriage and

\* I must say a word about servants' bed-rooms. From the way they are built, but oftener from the way they are kept, and from no intelligent inspection whatever being exercised over them, they are almost invariably dens of foul air, and the "servants' health" suffers in an "unaccountable" (?) way, even in the country; for I am by no means speaking only of London houses, where too often servants are put to live under the ground and over the roof. But in a country mansion, which was really a mansion, (not after the fashion of advertisements,) I have known three maids who slept in the same room ill of scarlet fever. "How catching it is," was of course the remark. One look at the room, one smell of the room, was quite enough. It was no longer unaccountable. The room was not a small one; it was up stairs, and it had two large windows; but nearly every one of the neglects enumerated above was there.

ally and physically, throughout their use  
lives; and yet people who are going to  
bring more such into the world, will con-  
sider their own convenience as to where they  
live, and how they are to live.

With regard to the health of houses  
and a sick person, it often happens that the sick  
person has a ventilating shaft for the rest of the ho-  
use, but the house is kept as close, unaired, and di-  
rectly the window of the sick room is kept a little o-  
pen, and the door occasionally. Now, there are c-  
ases in which a house with one sick person in i-  
t has that sick person: it ties up its knocker  
before it in the street. Why can't it be k-  
ept thoroughly clean and unusually well aired, in  
the presence of a sick person.

We must not forget what, in ordin-  
ary language, is called "Infection;" \*—a thing of which

\* Is it not living in a continual mistake to look upon di-  
seases as separate entities, which must exist, like cats and dogs  
upon them as conditions, like a dirty and a clean condit-  
ion, and under our own control; or rather as the reactions of kind  
conditions in which we have placed ourselves.

I was brought up, both by scientific men and ignorant  
people, to believe that small-pox, for instance, was a thing of wh-  
ich the first specimen in the world, which went on propagating  
a chain of descent, just as much as that there was a first

ually so afraid that they frequently follow the very practice in regard to it which they ought to avoid. Nothing used to be considered so infectious or contagious as small-pox; and people not very long ago used to cover up patients with heavy bed-clothes, while they kept up large fires and shut the windows. Small-pox, of course, under this *regime*, is very "infectious." People are somewhat wiser now in their management of this disease. They have ventured to cover the patients lightly, and to keep the windows open; and we hear much less of the "infection" of small-pox than we used to do. But do people in our days act with more wisdom on the subject of "infection" in fevers, scarlet fever, measles, etc., than their forefathers did with the small-pox? Does not the popular idea of "infection" involve that people should take greater care of themselves than of the patient? that, for instance, it is safer not to be too much with the patient, not to attend too much to his wants? Perhaps the best illustration of the utter absurdity of this view of duty in attending on "infectious" diseases, is afforded by what was very recently the practice, if it is not so even now, in some of the European lazarets—in which the plague-patient used to be condemned to the horrors of filth, overcrowding, and want of ventilation, while the medical attendant was ordered to examine the patient's tongue through an opera-glass, and to toss him a lancet to open his abscesses with?

True nursing ignores infection, except to prevent it. Cleanliness and fresh air from open windows, with unremitting attention to the patient, are the only defense a true nurse either asks or needs.

I have seen, for instance, with a little overcrowding, continued fever grow up; and with a little more, typhoid fever; and with a little more, typhus, and all in the same ward or hut.

Would it not be far better, truer, and more practical, if we looked upon disease in this light?

For diseases, as all experience shows, are adjectives, not noun substantives



Wise and humane management of the patient is the best safeguard against infection.

There are not a few popular opinions, in regard to which it is useful at times to ask a question or two. For example, it is commonly thought that children must have what are commonly called "children's epidemics," "current contagions," etc.—in other words, that they are born to have measles, whooping-cough, perhaps even scarlet fever, just as they are born to cut their teeth, if they live.

Now, do tell us, why must a child have measles?

Oh, because, you say, we can not keep it from infection—other children have measles, and it must take them, and it is safer that it should.

But why must other children have measles? And if they have, why must yours have them too?

If you believed in and observed the laws for preserving the health of houses, which inculcate cleanliness, ventilation, white-washing, and other means—and which, by the way, *are laws*—as implicitly as you believe in the popular opinion—for it is nothing more than an opinion, that your child must have children's epidemics—don't you think that, upon the whole, your child would be more likely to escape altogether?

### III. PETTY MANAGEMENT.

All the results of good nursing, as detailed in these notes, may be spoiled or utterly negatived by one defect, viz: in petty management, or in other words, by not knowing how to manage that what you do when you are there, shall be done when you are not there. The most devoted friend or nurse can not be always *there*. Nor is it desirable that she should. And she may give up her health, all her other duties, and yet, for want of a little management, be not one-half so efficient as another who is not one-half so devoted, but who has this art of multi-

ying herself—that is to say, the patient of the first will not really be so well cared for as the patient of the second.

It is as impossible, in a book, to teach a person in charge of a sick, how to *manage*, as it is to teach her how to nurse. Circumstances must vary with each different case. But it is possible to press upon her to think for herself. Now, what does happen during my absence? I am obliged to be away on Tuesday. But fresh air, or punctuality, is not less important to my patient on Tuesday than it was on Monday. Or, at 10 P. M., I am never with my patient; but quiet is of no less consequence to him at 10, than it was at five minutes to 10.

Curious as it may seem, this very obvious consideration occurs comparatively to few, or, if it does occur, it is only to cause the devoted friend or nurse to be absent fewer hours or fewer minutes from her patient—not to arrange so as that no minute and no hour shall be for her patient without the essentials of her nursing.

A very few instances will be sufficient, not as precepts, but as illustrations.

A strange washerwoman, coming late at night for the “things,” will burst in, by mistake, to the patient’s sick-room, after he has fallen into his first doze, giving him a shock, the effects of which are irremedial, though he himself laughs at the cause, and probably never even mentions it. The nurse who is, and is quite right to be, at her supper, has not provided that the washerwoman shall not lose her way and go into the wrong room.

The patient’s room may always have the window open. But the passage outside the patient’s room, though provided with several large windows, may never have one open. Because it is not understood that the charge of the sick-room extends to the charge of the passage. And thus, as often happens, the nurse makes it her business to turn the patient’s room into a ventilating shaft for the foul air of the whole house.

shall be always aired, always cleaned; she shall open the window herself "when she goes in."

An agitating letter or message may be delivered; an important letter or message *not* delivered; it may be of consequence to see, may be of consequence to whom it was of still more consequence to see, may be admitted — because the person in charge has asked herself this question, what is done there? †

At all events, one may safely say, a nurse, sitting with the patient, open the door, eat her lunch, read her message, all at one and the same time. No person in charge never seems to look the patient in the face.

Add to this that the *attempting* this increases the hurry more to increase the poor patient's hurry than anything else.

\* That excellent paper, the Builder, mentions the lime paint for a month about a house as a proof of want of ventilation, and, where there are ample windows to open, and these get rid of the smell of paint, it is proof of want of means of ventilation. Of course, the smell will then go. Why should it go?

† Why should you let your patient ever be surprised, and do not know. In England, people do not come down the stairs, unless they are thieves. They come in by the window, unless they are thieves. They come in by the door, unless they are thieves. The "somebody" who opens the door, is one of two, three, or at most four persons. W



or else you can not bear to give him the pain or the anxiety of the temporary separation.

No such thing. You *ought* to go, we will suppose. Health or duty requires it. Then say so to the patient openly. If you go without his knowing it, and he finds it out, he never will feel secure again that the things which depend upon you will be done when you are away, and, in nine cases out of ten, he will be right. If you go out without telling him when you will be back, he can take no measures nor precautions as to the things which concern you both, or which you do for him.

If you look into the reports of trials or accidents, and especially of suicides, or into the medical history of fatal cases, it is almost incredible how often the whole thing turns upon something which has happened because "he," or still oftener "she," "was not there." But, it is still more incredible how often, how almost always this is accepted as a sufficient reason, a justification; why, the very fact of the thing having happened, is the proof of its not being a justification. The person in charge was quite right not to be "*there*," he was called away for quite sufficient reason, or he was away for a daily recurring and unavoidable cause; yet no provision was made to supply his absence. The fault was not in his "being away," but in there being no management to supplement his "being away." When the sun is under a total eclipse, or during his nightly absence, we light candles. But it would seem as if it did not occur to us that we must also supplement the person in charge of sick or of children, whether under an occasional eclipse or during a regular absence.

In institutions where many lives would be lost, and the effect of such want of management would be terrible and patent, there is less of it than in the private house.\*

\* So true is this that I could mention two cases of women of very high position, both of whom died in the same way, of the consequences of a surgical operation. And in both cases I was told, by the highest authority, that the fatal result would not have happened in a London hospital.

thing myself, but), how can I provide for this right thing to be always done?

Then, when anything wrong has actually happened in consequence of her absence, which absence we will suppose to have been quite right, let her question still be (*not*, how can I provide against any more of such absences? which is neither possible nor desirable, but), how can I provide against anything wrong arising out of my absence?

How few men, or even women, understand, either in great or in little things, what it is the being "in charge"—I mean, know how to carry out a "charge." From the most colossal calamities, down to the most trifling accidents, results are often traced (or, rather, *not* traced), to such want of some one "in charge," or of his knowing how to be "in charge." A short time ago the bursting of a funnel-casing on board the finest and strongest ship that ever was built, on her trial trip, destroyed several lives, and put several hundreds in jeopardy—not from any undetected flaw in her new and untried works—but from a tap being closed which ought not to have been closed—from what every child knows would make its mother's tea-kettle burst. And this simply because no one seemed to know what it is to be "in charge," or *who* was in charge. Nay, more, the jury at the inquest actually altogether ignored the same, and apparently considered the tap "in charge," for they gave as a verdict "accidental death."

This is the meaning of the word, on a large scale. On a much smaller scale, it happened, a short time ago, that an insane person burned herself slowly, and intentionally, to death, while in her doctor's charge, and almost in her nurse's presence. Yet neither was considered "at all to blame." The very fact of the accident happening, proves its own case. There is nothing more to be said. Either they did not know their business, or they did not know how to perform it.



body can understand and carry them on—so that, in case of absence or illness, one can deliver every thing up to others, and know that all will go on as usual, and that one shall never be missed.

#### IV. NOISE.

Unnecessary noise, or noise that creates an expectation in the mind, is that which hurts a patient. It is rarely the loudness of the noise, the effect upon the organ of the ear itself, which appears to affect the sick. How well a patient will generally bear, *e. g.*, the putting up of a scaffolding close to the house, when he can not bear the talking, still less the whispering, especially if it be of a familiar voice, outside his door.

There are certain patients, no doubt, especially where there is slight concussion or other disturbance of the brain, who are affected by mere noise. But intermittent noise, or sudden and sharp noise, in these as in all other cases, affects far more than continuous noise—noise with jar far more than noise without. Of one thing you may be certain, that anything which wakes a patient suddenly out of his sleep, will invariably put him into a state of greater excitement, do him more serious, aye, and lasting mischief, than any continuous noise, however loud.

Never to allow a patient to be waked, intentionally or accidentally, is a *sine qua non* of all good nursing. If he is roused out of his first sleep, he is almost certain to have no more sleep. It is a curious but quite intelligible fact that, if a patient is waked after a few hours' instead of a few minutes' sleep, he is much more likely to sleep again. Because pain, like irritability of brain, perpetuates and intensifies itself. If you have gained a respite of either in sleep, you have gained more than the mere respite. Both the probability of recurrence and of the same intensity will be diminished; whereas, both will be terribly increased by want of sleep. This is the reason why sleep is so all-important. This is the reason why a patient,



waked in the early part of his sleep, loses not only his sleep, but his power to sleep. A healthy person who allows himself to sleep during the day, will lose his sleep at night. But it is exactly the reverse with the sick generally; the more they sleep, the better will they be able to sleep.

I have often been surprised at the thoughtlessness (resulting in cruelty, quite unintentionally) of friends or of doctors, who will hold a long conversation just in the room or passage adjoining to the room of the patient, who is either every moment expecting them to come in, or who has just seen them, and knows they are talking about him. If he is an amiable patient, he will try to occupy his attention elsewhere and not to listen; and this makes matters worse; for the strain upon his attention, and the effort he makes, are so great, that it is well if he is not worse for hours after. If it is a whispered conversation in the same room, then it is absolutely cruel; for it is impossible that the patient's attention should not be involuntarily strained to hear. Walking on tip-toe, doing anything in the room very slowly, are injurious, for exactly the same reasons. A firm, light, quick step, a steady, quick hand are the desiderata—not the slow, lingering, huffing foot—the timid, uncertain touch. Slowness is not gentleness, though it is often mistaken for such—quickness, lightness, and gentleness are quite compatible. Again, if friends and doctors did but watch, as nurses can and should watch, the features sharpening, the eyes growing almost wild, of fever-patients who are listening for the entrance from the corridor of the persons whose voices they are hearing there, these would never run the risk again of creating such expectation, or irritation of mind. Such unnecessary noise has undoubtedly induced or aggravated delirium in many cases. I have known such—in one case death ensued. It is but fair to say that this death was attributed to fright. It was the result of a long-whispered conversation, within sight of the patient.

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that it was mere fear which produced, a  
fatal result in this instance. It was r  
tainty, the strained expectation as to w  
cided upon.

I need hardly say that the other comm  
ly, for a doctor or friend to leave the pat  
nicate his opinion on the result of his v  
just outside the patient's door, or in the  
after the visit, but within hearing of k  
patient, is, if possible, worst of all.

It is, I think, alarming, peculiarly at  
the female ink-bottles are perpetually in  
"woman's" "particular worth and genera  
to see that the dress of women is dai  
unfitting them for any "mission," or use  
is equally unfitted for all poetic and  
poses. A man is now a more handy at  
tionable being in a sick room than a wo  
by her dress, every woman now either shu  
only a man can cross the floor of a si  
shaking it! What is become of woman  
firm, light, quick step we have been aski

Unnecessary noise, then, is the most  
care which can be inflicted either on si  
in all these remarks, the sick are only r  
fering in a greater proportion than th

be found to resolve themselves very much, if not entirely, into presence or absence of care in these things.

A nurse who rustles (I am speaking of nurses professional and unprofessional) is the horror of a patient, though perhaps he does not know why.

The fidget of silk and crinoline, the rattling of keys, the creaking of stays and of shoes, will do a patient more harm than all the medicines in the world will do him good.

The noiseless step of woman, the noiseless drapery of man, are mere figures of speech in this day. Her skirts (and well if they do not throw down some piece of furniture) will at least brush against every article in the room as she moves. \*

Again, one nurse can not open the door without making every thing rattle; or she opens the door unnecessarily often, for want of remembering all the articles that might be brought in at once.

A good nurse will always make sure that no door or window in her patient's room shall rattle or creak; that the blind or curtain shall, by any change of wind through the open window, be made to flap; especially will she be careful of all this before she leaves her patients for the night. If you wait till your patients tell you, or remind you of these things, where is the use of their having a nurse? There are more shy than exacting patients, in all classes; and many a patient passes a bad night, time after

Fortunate it is if her skirts do not catch fire; and if the nurse does not throw herself up as a sacrifice, together with her patient, to be burnt in her own efforts. I wish the Registrar-General would tell us the exact number of deaths by burning occasioned by this absurd and hideous custom. But if people will be stupid, let them take measures to protect themselves from their own stupidity—measures which every chemist knows, such as putting alum on starch, which prevents starched articles of dress from blazing up.

I wish, too, that people who wear crinoline could see the indecency of their dresses as other people see it. A respectable elderly woman stooping forward, invested in crinoline, exposes quite as much of her own person to the patient lying in the room as any opera dancer does on the stage; but no one ever tells her this unpleasant truth.



little piece snipping down, and napping will distract a patient.

All hurry or bustle is peculiarly p and when a patient has compulsory gage him, instead of having simply t becomes doubly injurious. The fr standing and fidgeting about while a business to him; or the friend who s one from an idea of not letting the pa from an idea of amusing him—each is ate. Always sit down when a sick business to you, show no signs of h attention and full consideration if you and go away the moment the subject i

Always sit within the patient's view speak to him he has not painfully to in order to look at you. Everybody at the person speaking. If you mak some one on the part of the patient harm. So also if by continuing to s continuously raise his eyes to see you. as possible, and never gesticulate in s

Never make a patient repeat a mes pecially if it be sometime after. Oc often accused of doing too much of They are instinctively right. How person charged with the request of gi

Do not meet or overtake a patient who is moving about in order to speak to him, or to give him any message or letter; you might just as well give him a blow on the ear. I have seen a patient fall flat on the ground who was standing when his nurse came into the room. This was an accident which might have happened to the most careful nurse; but the other is done with intention. A patient in such a state is not going to the East India Company. If you would wait ten seconds, or walk ten yards further any promenade he could make would be over. You do not know the effort it is to a patient to remain standing for even a quarter of a minute to listen to you. If I have not seen the thing done by the kindest nurses and friends I should have thought this caution quite superfluous.\*

Patients are often accused of being able to "do more when nobody is by." It is quite true that they can. Unless nurses can be brought to attend to consideration of the kind of which we have given here but a few specimens, a very weak patient finds it really much less exertion to do things for himself than to ask for them. And he will, in order to do them, (very innocently and from instinct) calculate the time his nurse is likely to be absent from a fear of her "coming in upon" him or speaking to him, just at the moment when he finds it quite as much as he can do to crawl from his bed to his chair, or from one room to another, or down stairs, or out of doors for a few minutes. Some extra call made upon his attention

\* It is absolutely essential that a nurse should lay this down as a positive rule to herself, never to speak to any patient who is standing or moving, so long as she exercises so little observation as not to know when a patient is not bearing it. I am satisfied that many of the accidents which happen to feeble patients tumbling down stairs, fainting after getting up, etc., happen solely from the nurse popping out of a door to speak to the patient just at the moment; or from his fearing that she will do so. And if the patient were even left to himself, till he can sit down, such accidents would much seldom occur. If the nurse accompanies the patient, let her not call upon him to speak. It is incredible that nurses can not picture to themselves the strain upon the heart, the lungs, and the brain, which the act of moving is to a feeble patient.

at that moment will quite upset him. In these cases you may be sure that a patient in the state we have described does not make such exertions more than once or twice a day, and probably much about the same hour every day. And it is hard, indeed, if nurse and friends cannot calculate so as to let him make them undisturbed. Remember, that many patients can walk who cannot stand or even sit up. Standing is, of all positions, the most trying to a weak patient.

Everything you do in a patient's room, after he is "put up" for the night, increases tenfold the risk of his having a bad night. But, if you rouse him up after he has fallen asleep, you do not risk, you secure him a bad night.

One hint I would give to all who attend or visit the sick, to all who have to pronounce an opinion upon sickness or its progress. Come back and look at your patient *after* he has had an hour's animated conversation with you. It is the best test of his real state we know. But never pronounce upon him from merely seeing what he does, or how he looks, during such a conversation. Learn also carefully and exactly, if you can, how he passed the night after it.

People rarely, if ever, faint while making an exertion. It is after it is over. Indeed, almost every effect of over-exertion appears after, not during such exertion. It is the highest folly to judge of the sick, as is so often done, when you see them merely during a period of excitement. People have very often died of that which, it has been proclaimed at the time, has "done them no harm."\*

\*As an old experienced nurse, I do most earnestly deprecate all such careless words. I have known patients delirious all night, after seeing a visitor who called them "better," thought they "only wanted a little amusement," and who came again, saying, "I hope you are not the worse for my visit," neither waiting for an answer, nor even looking at the case. No real patient will ever say, "Yes, but I was a great deal the worse."

It is not, however, either death or delirium of which, in these cases, there is most danger to the patient. Unperceived consequences are far more likely to ensue. You will have impunity—the patient will not. That is, the patient



Remember never to lean against, sit upon, or unnecessarily shake, or even touch the bed in which a patient lies. This is invariably a painful annoyance. If you shake the chair on which he sits, he has a point by which to steady himself, in his feet. But on a bed or sofa, he is entirely at your mercy, and he feels every jar you give him all through him.

In all that we have said, both here and elsewhere, let it be distinctly understood that we are not speaking of hypochondriacs. To distinguish between real and fancied disease forms an important branch of the education of a nurse. To manage fancy patients forms an important branch of her duties. But the nursing which real and that which fancied patients require is of different, or rather of opposite, character. And the latter will not be spoken of here. Indeed, many of the symptoms which are here mentioned are those which distinguish real from fancied disease.

It is true that hypochondriacs very often do that behind a nurse's back which they would not do before her face. Many such I have had as patients who scarcely ate any thing at their regular meals; but if you concealed food for them in a drawer, they would take it at night or in secret. But this is from quite a different motive. They do it from the wish to conceal. Whereas the real patient will often boast to his nurse or doctor, if these do not shake their heads at him, of how much he has done, or eaten or walked. To return to real disease.

Conciseness and decision, are above all things, necessary with the sick. Let your thought expressed to them be concisely and decidedly expressed. What doubt and hesitation there may be in your own mind must never be communicated to theirs, not even (I would rather say

will suffer, although neither he nor the inflictor of the injury will attribute it to its real cause. It will not be directly traceable, except by a very careful observant nurse. The patient will often not even mention what has done him most harm.

ially not) in little things. Let your doubt be to your decision to them. People who think outside heads, the whole process of whose thought appears, Homer's, in the act of secretion, who tell everything led them towards this conclusion and away from that, it never to be with the sick.

resolution is what all patients most dread. Rather meet this in others, they will collect all their data, make up their minds for themselves. A change of d in others, whether it is regarding an operation, or writing a letter, always injures the patient more than being called upon to make up his mind to the most ded or difficult decision. Farther than this, in very y cases, the imagination in disease is far more active vivid than it is in health. If you propose to the patient change of air to one place one hour, and to another next, he has, in each case, immediately constituted self in imagination the tenant of the place, gone over whole premises in idea, and you have tired him as h by displacing his imagination, as if you had actually lied him over both places.

bove all, leave the sick room quickly and come into it kly, not suddenly, not with a rush. But don't let the ent be wearily waiting for when you will be out of the n or when you will be in it. Conciseness and decision onr movements, as well as your words, are necessary he sick room, as necessary as absence of hurry and le. To possess yourself entirely will ensure you from er failing—either loitering or hurrying.

' a patient has to see, not only to his own but also to nurse's punctuality, or perseverance, or readiness, or iness—to any or all of these things, he is far better out that nurse than with her, however valuable and ly her services may otherwise be to him, and however pable he may be of rendering them to himself.

With regard to reading aloud in the sick-room, my exence is, that when the sick are too ill to read to them.

selves, they can seldom bear to be read to. Children, eye-patients, and uneducated persons are exceptions, or where there is any mechanical difficulty in reading. People who like to be read to, have generally not much the matter with them; while in fevers, or where there is much irritability of brain, the effort of listening to reading aloud is often brought on delirium. I speak with great diffidence because there is an almost universal impression that it is *sparing* the sick to read aloud to them. But two things are certain :

(1.) If there is some matter which *must* be read to the sick person, do it slowly. People often think that the way to get it over with the least fatigue to him is to get it over in least time. They gabble; they plunge and gallop through the reading. There never was a greater mistake. Houdin, the conjuror, says that the way to make a story seem short is to tell it slowly. So it is with reading to the sick. I have often heard a patient say to such a mistaken reader, "Don't read it to me; tell it me."\* Unconsciously he is aware that this will regulate the planning, the reading with unequal paces, slurring over one part, instead of leaving it out altogether, if it is unimportant, and mumbling another. If the reader lets his own attention wander, and then stops to read up to himself, or finds he has read the wrong bit, then it is all over with the poor patient's chance of not suffering. Very few people know how to read to the sick; very few read aloud as pleasantly even as they speak. In reading they sing, they hesitate, they stammer, they hurry, they mumble; when in speaking they do none of these things. Reading aloud to the sick ought always to be rather slow and exceedingly distinct, but not mouthing—rather not monotonous, but not sing-song; rather loud, but not noisy and, above all, not too long. Be very sure of what your patient can bear.

\* Sick children, if not too shy to speak, will always express this wish. They invariably prefer a story to be told to them, rather than read to them.



.) The extraordinary habit of reading to oneself in a room, and reading aloud to the patient any bits which will amuse him, or more often the reader, is unaccountably thoughtless. What *do* you think the patient is thinking of during your gaps of non-reading? Do you think that he amuses himself upon what you have read precisely the time it pleases you to go on reading to yourself, and that his attention is ready for something at precisely the time it pleases you to begin reading again? Whether the person thus read to be sick or well, whether he be doing nothing or doing something else while being thus read to, the self-absorption and want of diversion of the person who does it, is equally difficult to understand, although very often the reader is too unable to say how much it hurts him.

One thing more: From the flimsy manner in which most modern houses are built, where every step on the stairs, and along the floors, is felt all over the house; the louder the story, the greater the vibration. It is inconceivable how much the sick suffer by having anybody overhead. In the solidly built old houses, which, fortunately, most hospitals are, the noise and shaking are comparatively trifling. But it is a serious cause of suffering in lightly built houses, and with the irritability peculiar to these diseases. Better far put such patients at the top of a house, even with the additional fatigue of stairs, if you cannot secure the room above them being untenanted; it may otherwise bring on a state of restlessness which opium will subdue. Do not neglect the warning when a patient tells you that he "feels every step above him cross his heart." Remember that every noise a patient can not see partakes of the character of suddenness to him; and I am persuaded that patients with these peculiarly irritable nerves, are positively less injured by having persons in the same room with them than overhead, or separated by only a thin compartment. Any sacrifice to secure silence for these cases is worth while, because no

air, however good, no attendance, however careful, will anything for such cases without quiet.

### V. VARIETY.

To any but an old nurse, or an old patient, the degree would be quite inconceivable to which the nerves of sick suffer from seeing the same walls, the same ceiling, the same surroundings, during a long confinement to one or two rooms.

The superior cheerfulness of persons suffering severe paroxysms of pain over that of persons suffering from nervous debility, has often been remarked upon, and attributed to the enjoyment of the former of their intervals of respite. I incline to think that the majority of cheerful cases is to be found among those patients who are confined to one room, whatever their suffering, and that the majority of depressed cases will be seen among those subjected to a long monotony of objects about them.

The nervous frame really suffers as much from this as the digestive organs from long monotony of diet, as does the soldier from his twenty-one years' "boiled beef."

The effect in sickness of beautiful objects, and especially of brilliancy of color, is hardly at all appreciated.

Such cravings are usually called the "fancies" of patients. And often, doubtless, patients have "fancies," *e. g.*, when they desire two contradictions. But more often their so-called "fancies" are the most valuable indications of what is necessary for their recovery; and it would be well if nurses would watch these so-called "fancies" closely.

NOTE.—The effect of music upon the sick has been scarcely at all noticed. In fact, its expensiveness, as it is now, makes any general application of it quite out of the question. I will only remark here, that wind instruments, including the human voice, and stringed instruments, capable of continuous sound, have generally a beneficent effect; while the piano-forte, with its instruments as have no continuity of sound, has just the reverse. The piano-forte playing will damage the sick, while an air, like "H

Volumes are now written and spoken upon the effect of the mind upon the body. Much of it is true. But I wish a little more was thought of the effect of the body upon the mind. You who believe yourselves overwhelmed with anxieties, but are able every day to walk up and down the street, or out in the country, to take your meals with others in other rooms, etc., you little know how your anxieties are thereby lightened; you little know how intensified they become to those who can have no change;\* how the very walls of their sick rooms are hung with their cares; how the ghosts of their troubles haunt their beds; how impossible it is for them to escape from a pursuing thought without some help from variety.

A patient can just as much move his leg when fractured, as change his thoughts when no external help from variety is given him. This is, indeed, one of the main sufferings of sickness; just as the fixed posture is one of the main sufferings of the broken limb.

It is an ever recurring wonder to see educated persons who call themselves nurses, acting thus. They vary their own objects, their own employments, many times a day, and while nursing (!) some bed-ridden sufferer, they let him lie there staring at a dead wall, without any change of object to enable him to vary his thoughts; and it is not even occurs to them, at least to move his bed so that he can look out of window. No, the bed is to be always in the darkest, dullest, remotest part of the room.†

\* It is a matter of painful wonder to the sick themselves, how much their painful ideas predominate over pleasurable ones in their impressions; they realize their own sufferings; they think themselves ungrateful; it is all of no use. They know that these painful impressions are far better dismissed by a real laugh than by any direct reason. But the patient is too weak to laugh, some impression from nature is wanting. I have mentioned the cruelty of letting him stare at a dead wall in many diseases, especially in convalescence from fever, that wall will make all sorts of faces at him; now flowers never do this. Flowers will free your patient from his painful ideas better than any argument.

† I remember a case in point. A man received an injury to the spine by an accident, which, after a long confinement, ended in death. He



[think it is a very common error among the well to think that "with a little more self-control" the sick might, if they choose, "dismiss painful thoughts" which aggravate their disease," etc. Believe me, almost *any* person, who behaves decently well, exercises more self-control every moment of his day, than you will ever know till you are sick yourself. Almost every step that crosses his room, is painful to him; almost every thought that crosses his brain is painful to him: and if he can speak without being savage, and look without being unpleasant, he is exercising self-control.

Suppose you have been up all night, and instead of being allowed to have your cup of tea, you were to be told that you ought to "exercise self-control," what should I say? Now, the nerves of the sick are always in the state that yours are in after you have been up all night.

We will suppose the diet of the sick to be cared for. Then, this state of nerves is most frequently to be relieved by care in affording them a pleasant view, a judicious variety as to flowers,\* and pretty things. Light by itself will often relieve it. The cravings for "the return of day," which the sick so constantly evince, is generally nothing but the desire for light, the remembrance of the

man, had not in his composition a single grain of what is called "enthusiasm for nature," but he was desperate to "see once more out of window." The nurse actually got him on her back, and managed to perch him up at the window for an instant, to see out. The consequence to the poor nurse was a serious illness, which nearly proved fatal. The man never knew it; but a great many other people did. Yet the consequence in none of their minds, so far as I know, was the conviction that the craving for variety in the starving is just as desperate as that of food in the starving stomach, and tempts the famishing creature in either case to steal for its satisfaction. No other word will express it but desperation. And it sets the seal of ignorance and stupidity just as much on the governors and attendants of the sick, if they do not provide the sick bed with a "view" of some kind, as if they did not provide the hospital with a kitchen.

No one who has watched the sick, can doubt the fact, that some feel stimulated from looking at scarlet flowers, exhaustion from looking at deep blue

relief which a variety of objects before the eye affords to the harassed sick mind.

Again, every man and every woman has some amount of manual employment, excepting a few fine ladies, who do not even dress themselves, and who are virtually in the same category, as to nerves, as the sick. Now, you can have no idea of the relief which manual labor is to you—of the degree to which the deprivation of manual employment increases the peculiar irritability from which many sick suffer.

A little needle-work, a little writing, a little cleaning, would be the greatest relief the sick could have, if they could do it; these *are* the greatest relief to you, though you do not know it. Reading, though it is often the only thing the sick can do, is not this relief. Bearing this in mind, bearing in mind that you have all these varieties of employment which the sick can not have, bear also in mind to obtain for them all the varieties which they can enjoy.

I need hardly say that I am well aware that excess in needle work, in writing, in any other continuous employment, will produce the same irritability that defect in manual employment, as one cause, produces in the sick.

## VI. TAKING FOOD.

Every careful observer of the sick will agree in this, that thousands of patients are annually starved in the midst of plenty, from want of attention to the ways which alone make it possible for them to take food. This want of attention is as remarkable in those who urge upon the sick to do what is quite impossible to them, as in the sick themselves who will not make the effort to do what is perfectly possible to them.

For instance, to the large majority of very weak patients it is quite impossible to take any solid food before 11 A. M., nor then, if their strength is still further

ted by fasting till that hour. For weak patients generally feverish nights, and, in the morning, dry throats; and, if they could eat with those dry mouths, it would be the worse for them. A spoonful of beef-tea, of wort and wine, of egg flip, every hour, will give the requisite nourishment, and prevent them from being too much exhausted to take at a later hour the food, which is necessary for their recovery; and every patient who can swallow at all can swallow these small things if he chooses. But how often do we hear a patient chop, an egg, a bit of bacon, ordered to a patient for breakfast, to whom, as a moment's consideration would show us, it must be quite impossible to masticate such things at that hour.

Again, a nurse is ordered to give a patient a teacupful of some article of food every three hours. The patient's stomach rejects it. If so, try a tablespoonful every hour; if this will not do, a teaspoonful every quarter of an hour. I am bound to say, that I think more patients are lost for want of care and ingenuity in these momentous matters in private nursing than in public hospitals; and I think there is more of the *entente cordiale* to assist another's hands between the doctor and his head-nurse in the latter institutions, than between the doctor and the patient's friends in the private house.

As we did but know the consequences which may ensue in very weak patients, from ten minutes' fasting or repletion, (I call it repletion when they are obliged to let so small an interval elapse between taking food and any other exertion, owing to the nurse's unpunctuality,) we should be more careful never to let this occur. In very weak patients there is often a nervous difficulty of swallowing, which is so much increased by any other exertion upon their strength, that, unless they have their food actually at the minute, which minute again must be managed so as to fall in with no other minute's occupation, they can take nothing till the next respite occurs—



so that an unpunctuality or delay of ten minutes may very well turn out to be one of two or three hours. And why is it not as easy to be punctual to a minute? Life often literally hangs upon these minutes.

In acute cases, where life or death is to be determined in a few hours, these matters are very generally attended to, especially in hospitals; and the number of cases is large where the patient is, as it were, brought back to life by exceeding care on the part of the doctor or nurse, or both, in ordering and giving nourishment with minute selection and punctuality.

But in chronic cases, lasting over months and years, where the fatal issue is often determined at last by mere protracted starvation, I had rather not enumerate the instances which I have known, where a little ingenuity, and a great deal of perseverance, might, in all probability, have averted the result. The consulting the hours when the patient can take food, the observation of the times, often varying, when he is most faint, the altering seasons of taking food, in order to anticipate and prevent such times—all this, which requires observation, ingenuity, and perseverance, (and these really constitute the good nurse,) might save more lives than we wot of.

To leave the patient's untasted food by his side, from meal to meal, in hopes that he will eat it in the interval, is simply to prevent him from taking any food at all. I have known patients literally incapacitated from taking one article of food after another, by this piece of ignorance. Let the food come at the right time, and be taken away, eaten or uneaten, at the right time; but never let a patient have "something always standing" by him, if you don't wish to disgust him of everything.

On the other hand, I have known a patient's life saved (he was sinking for want of food) by the simple question put to him by the doctor, "But is there no hour when you feel you could eat?" "Oh, yes," he said, "I could always take something at —o'clock and — o'clock."

a thing was tried and succeeded. Patients very seldom, however, can tell this—it is for you to watch and let it out.

A patient should, if possible, not see or smell either the food of others, or a greater amount of food than he himself can consume at one time, or even hear food talked out, or see it in the raw state. I know of no exception to the above rule. The breaking of it always induces a more or less incapacity of taking food.

In hospital wards it is of course impossible to observe this; and in single wards, where a patient must be continuously and closely watched, it is frequently impossible to relieve the attendant, so that his or her own affairs can be taken out of the ward. But it is not less true that, in such cases, even where the patient is not self-aware of it, his possibility of taking food is limited by seeing the attendant eating meals under his observation. In some cases the sick are aware of it, and complain. A case where the patient was supposed to be insensible, but complained as soon as able to speak, is now sent to my recollection.

Remember, however, that the extreme punctuality in well-ordered hospitals—the rule that nothing shall be done in the ward while the patients are having their meals—go far to counterbalance what unavoidable evil there is in having patients together. I have often seen a private nurse go on dusting or fidgeting about in a sick-room all the while the patient is eating, or trying to

That the more alone an invalid can be when taking food, the better, is unquestionable; and, even if he must be fed, the nurse should not allow him to talk, or talk to others, especially about food, while eating.

When a person is compelled, by the pressure of occupation, to continue his business while sick, it ought to be the rule WITHOUT ANY EXCEPTION WHATEVER, that no one shall engage in business with him or talk to him while he is taking

food, nor go on talking to him on interesting subjects up to the last moment before his meals, nor make an engagement with him immediately after, so that there be any hurry of mind while taking them.

Upon the observance of these rules, especially the first, often depends the patient's capability of taking food at all, or, if he is amiable and forces himself to take food, of deriving any nourishment from it.

A nurse should never put before a patient milk that is sour, meat or soup that is turned, an egg that is bad, or vegetables underdone. Yet often I have seen these things brought in to the sick in a state perfectly perceptible to every nose or eye except the nurse's. It is here that the clever nurse appears; she will not bring in the peccant article, but, not to disappoint the patient, she will whip up something else in a few minutes. Remember that sick cookery should half do the work of your poor patient's weak digestion. But if you further impair it with your bad articles, I know not what is to become of him or of it.

If the nurse is an intelligent being, and not a mere carrier of diets to and from the patient, let her exercise her intelligence in these things. How often we have known a patient to eat nothing at all in the day, because one meal was left untasted (at that time he was incapable of eating) at another the milk was sour, the third was spoiled by some other accident. And it never occurred to the nurse to extemporize some expedient,—it never occurred to her that as he had had no solid food that day he might eat a bit of toast (say) with his tea in the evening, or he might have some meat an hour earlier. A patient who cannot touch his dinner at two, will often accept it gladly, brought to him at seven. But somehow nurses never “think of these things.” One would imagine they did not consider themselves bound to exercise their judgment; they leave it to the patient. Now I am quite sure that it is better for a patient rather to suffer these neglects than to try to teach his nurse to nurse him, if she does not



ow how. It ruffles him, and if he is ill he is in no con-  
 on to teach, especially upon himself. The above  
 marks apply much more to private nursing than to  
 pitals.

I would say to the nurse, have a rule of thought about  
 ur patient's diet; consider, remember how much he has  
 l, and how much he ought to have to-day. Generally,  
 : only rule of the private patient's diet is what the  
 rse has to give. It is true she cannot give him what  
 : has not got; but his stomach does not wait for her  
 venience, or even her necessity.\* If it is used to hav-  
 ; its stimulus at one hour to day, and to-morrow it does  
 t have it, because she has failed in getting it, he will  
 fer. She must be always exercising her ingenuity to  
 pply defects, and to remedy accidents which will happen  
 long the best contrivers, but from which the patient  
 es not suffer the less, because "they cannot be helped."  
 One very minute caution,—take care not to spill into  
 ur patient's saucer, in other words, take care that the  
 tside bottom rim of his cup shall be quite dry and clean;  
 every time he lifts his cup to his lips, he has to carry  
 e saucer with it, or else to drop the liquid upon, and to  
 il his sheet, or his bed-gown, or pillow, or if he is sitting  
 , his dress, you have no idea what a difference this min-  
 e want of care on your part makes to his comfort and  
 en to his willingness for food.

\* Why, because the nurse has not got some food to-day which the patient  
 res, can the patient wait four hours for food to-day, who could not wait two  
 an yesterday? Yet this is the only logic one generally hears. On the other  
 nd, the other logic, viz., of the nurse giving a patient a thing because she  
 got it, is equally fatal. If she happens to have fresh jelly, or fresh fruit,  
 : will frequently give it to the patient half an hour after his dinner, or at  
 dinner, when he cannot possibly eat that and the broth too—or worse still,  
 ve it by his bed-side till he is so sickened with the sight of it, that he can  
 eat it at all.

cles. Now, just try and boil down a pint of beef tea, evaporate your beef tea, and you will find that there is but little of solid nourishment to half a pint of tea;—nevertheless there is a certain repair which we do not know what, as there is in tea;—it may be given in almost any inflammatory case, and a little to be depended upon with the health, where much nourishment is required. I have ever ready saw that an egg is equivalent to meat,—whereas it is not at all so. I have noticed with how many patients, particularly of bilious temperament, eggs disagree;—made with eggs, are distasteful to them. An egg, whipped up with wine, is often given, which they can take this kind of nourishment, when the patient has attained to eating meat, and to give him meat is the only thing needful. Whereas scorbutic sores have been a great deal to appear among sick persons living in this country in England, which could be traced to no other cause than this, viz.: that the nurse, depending on the allowance of the patient to be without vegetables, allowed the patient to be without vegetables for a considerable time, these latter being so badly prepared, and so disagreeable to the patient.

important article for the sick. Butter is the lightest kind of animal fat, and though it wants the sugar and some of the other elements which there are in milk, yet it is most valuable both in itself and in enabling the patient to eat more bread. Flour, oats, groats, barley, and their kind, as we have already said, preferable in all their preparations to all the preparations of arrowroot, sago, tapioca, and their kind. Cream, in many long chronic diseases, is quite irreplaceable by any other article whatever. It seems to act in the same manner as beef tea, and to most of us much easier of digestion than milk. In fact, it seldom disagrees. Cheese is not usually digestible by the sick, but is pure nourishment for repairing waste; and I have seen sick, and not a few either, whose craving for cheese showed how much it was needed by them.\*

But, if fresh milk is so valuable a food for the sick, the first change or sourness in it, makes it of all articles, perhaps, the most injurious; diarrhœa is a common result of fresh milk allowed to become at all sour. The nurse, therefore, ought to exercise her utmost care in this. In large institutions for the sick, even the poorest, the utmost care is exercised. Wenham lake ice is used for this purpose every summer, while the private patient, perhaps, never tastes a drop of milk that is not sour, even through the hot weather, so little does the private nurse understand the necessity of such care. Yet, if you consider that the only drop of real nourishment in your patient's tea is the drop of milk, and how much almost

\*In the diseases produced by bad food, such as scorbutic dysentery and diarrhœa, the patient's stomach often craves for and digests things, some of which would be laid down in no dietary that ever was invented for sick, and especially not for such sick. These are fruit, pickles, jams, gingerbread, fat ham or bacon, suet, cheese, butter, milk. These cases I have seen not by ones, nor by tens, but by hundreds. And the patient's stomach was right and the book was wrong. The articles craved for, in these cases, might have been principally arranged under the two heads of fat and vegetable acids.

There is often a marked difference between men and women in this matter of sick feeding. Women's digestion is generally slower.



all the English patients depend upon their tea, you will see the great importance of not depriving your patient of this drop of milk. Buttermilk, a totally different thing, is often very useful, especially in fevers.

In laying down rules of diet, by the amounts of solid nutriment in different kinds of food, it is constantly lost sight of what the patient requires to repair his waste, what he can take and what he can't. You can not diet a patient from a book, you can not make up the human body as you would make up a prescription—so many parts carboniferous, so many parts nitrogenous, will constitute a perfect diet for the patient. The nurse's observations here will materially assist the doctor—the patient's fancies will materially assist the nurse. For instance, sugar is one of the most nutritive of all articles, being pure carbon, and is particularly recommended in some books. But the vast majority of all patients in England, young and old, male and female, rich and poor, hospital and private dislike sweet things—while I have never known a person take to sweets when he was ill who disliked them when he was well, I have known many fond of them when in health, who in sickness would leave off anything sweet even to sugar in tea—sweet puddings, sweet drinks, at their aversion; the furred tongue almost always likes what is sharp or pungent. Scorbutic patients are an exception they often crave for sweetmeats and jams.

Jelly is another article of diet in great favor with nurses and friends of the sick; even if it could be eaten solid, would not nourish, but it is simply the height of folly to take one-eighth ounce of gelatine and make it into a certain bulk by dissolving it in water, and then to give it to the sick, as if the mere bulk represented nourishment. It is now known that jelly does not nourish, that it has a tendency to produce diarrhoea—and to trust to it to repair the waste of a diseased constitution, is simply to starve the sick under the guise of feeding them. If one hundred spoonfuls of jelly were given in the course of the day

it would have given one spoonful of gelatine, which spoonful has no nutritive power whatever.

And, nevertheless, gelatine contains a large quantity of nitrogen, which is one of the most powerful elements in nutrition; on the other hand, beef tea may be chosen as an illustration of great nutrient power in sickness, coexisting with a very small amount of solid nitrogenous matter.

Dr. Christison says that "every one will be struck with the readiness with which" certain classes of "patients will often take diluted meat juice or beef tea repeatedly, when they refuse all other kinds of food." This is particularly remarkable in "cases of gastric fever, in which," he says, "little or nothing else beside beef tea or diluted meat juice" has been taken for weeks, or even months, and yet a pint of beef tea contains scarcely one-fourth ounce of anything but water"—the result is so striking that he asks what is its mode of action? "Not simply nutrient—one-fourth ounce of the most nutritive material cannot nearly replace the daily wear and tear of the tissues in any circumstances. Possibly," he says, "it belongs to a new denomination of remedies."

It has been observed that a small quantity of beef tea, added to other articles of nutrition, augments their power out of all proportion to the additional amount of solid matter.

The reason why jelly should be innutritious, and beef tea nutritious to the sick, is a secret yet undiscovered, but clearly shows that careful observation of the sick is the only clue to the best dietary.

Chemistry has, as yet, afforded little insight into the dieting of sick. All that chemistry can tell us is the amount of carboniferous or nitrogenous elements discoverable in different dietetic articles. It has given us lists of dietetic substances, arranged in the order of their richness in one or other of these principles; but that is all. In the great majority of cases, the stomach of the patient

tion, is something different from the laboratory. Organic chemistry is useful is, when we come face to face with nature means follows that we should learn in one of the reparative processes going on

Again, the nutritive power of milk, obtained from milk, is very much undervalued, nearly as much nourishment in half a pound there is in a quarter of a pound of meat. The whole question, or nearly the whole question is, what the patient's stomach can assimilate nourishment from, and of this the patient is the sole judge. Chemistry can not tell the patient's stomach must be its own chemist. To keep the healthy man healthy, will kill the sick man. The same beef, which is the most nutritive food, which nourishes the healthy man, is the least of all food to the sick man, whose half he cannot *assimilate* no part of it, that is, make use of. On a diet of beef tea, healthy men can live, but they speedily lose their strength.

I have known patients live for many years on nothing but touching bread, because they could not assimilate anything else. These were mostly country patients, but



nt is to eat—perhaps the most important thing to be  
ided for him after the air he is to breathe.

ow, the medical man who sees the patient only once  
y, or even only once or twice a week, can not pos-  
tell this without the assistance of the patient him-  
or of those who are in constant observation on the  
ant. The utmost the medical man can tell is, whether  
patient is weaker or stronger at this visit than he was  
le last visit. I should therefore say that incompara-  
the most important office of the nurse, after she has  
an care of the patient's air, is to take care to observe  
effect of his food, and report it to the medical at-  
lant.

tis quite incalculable the good that would certainly  
ie from such *sound* and close observation in this al-  
st neglected branch of nursing, or the help it would  
e to the medical man.

a great deal too much against tea\* is said by wise  
ple, and a great deal too much of tea is given to the  
by foolish people. When you see the natural and

tis made a frequent recommendation to persons about to incur great ex-  
tion, either from the nature of the service, or from their being not in a  
fit for it, to eat a piece of bread before they go. I wish the recommend-  
ould themselves try the experiment of substituting a piece of bread for a  
of tea or coffee, or beef-tea, as a refresher. They would find it a very  
comfort. When soldiers have to set out fasting on fatiguing duty, when  
s have to go fasting in to their patients, it is a hot restorative they want,  
ught to have, before they go, not a cold bit of bread. And dreadful  
been the consequences of neglecting this. If they can take a bit of  
with the hot cup of tea, so much the better, but not instead of it. The  
ist there is more nourishment in bread than in almost anything else, has  
bly induced the mistake. That it is a fatal mistake there is no doubt. It  
, though very little is known on the subject, that what assimilates  
directly, and with the least trouble of digestion with the human body,  
best for the above circumstances. Bread requires two or three processes  
imilation before it becomes like the human body.

almost universal testimony of English men and women who have un-  
re great fatigue, such as riding long journeys without stopping, or sit-  
p for several nights in succession, is, that they could do it best upon an  
onal cup of tea, and nothing else.

experience, not theory, decide upon this as upon all other things.

coffee restores her patient, thinks that will do twice as much. This is not true; however, certain that there is nothing which is a substitute to the English patient's tea; he can take it when he can take anything else; he often can't take anything else if he has no tea. He is very glad if any of the abusers of tea will give him what to give to an English patient after a day instead of tea. If you give it at five or six in the morning, he may even sometimes fall asleep for perhaps his only two or three hours of sleep in twenty-four. At the same time you must not give tea or coffee to the sick, as a rule, after six in the afternoon. Sleeplessness in the early stages of fever is common, and is increased by excitement generally, and is relieved by quietude. Sleeplessness, which continues to the end of the disease, is from exhaustion often, and is relieved by quietude. English patients I have ever known refuse to take coffee in typhus cases, and the first sign of their recovery is their craving again for tea. In general, the English tongue always prefers tea to coffee, and to milk, unless with tea. Coffee is a better tonic than tea, but a greater impairer of the digestion. The patient's taste decides. You will say that, if the patient is thirsty, the patient's craving decides the matter.

Lehman, quoted by Dr. Christison, says that, among the well and active, "the infusion of one ounce of roasted coffee daily will diminish the waste going on in the body by one-fourth;" and Dr. Christison adds that tea has the same property. Now this is actual experiment. Lehman weighs the man, and finds the fact from his weight. It is not deduced from any "analysis" of food. All experience among the sick shows the same thing.\*

Cocoa is often recommended to the sick in lieu of tea or coffee. But independently of the fact that English sick very generally dislike cocoa, it has quite a different effect from tea or coffee. It is an oily, starchy nut, having no restorative power at all, but simply increasing fat. It is pure mockery of the sick, therefore, to call it a substitute for tea. For any renovating stimulus it has, you might just as well offer them chestnuts instead of tea.

An almost universal error among nurses is in the bulk of the food, and especially the drinks they offer to their patients. Suppose a patient ordered four ounces of brandy during the day, how is he to take this if you make it into four pints with diluting it? The same with tea and beef tea, with arrowroot, milk, etc. You have not

\*In making coffee, it is absolutely necessary to buy it in the berry and grind it at home. Otherwise you may reckon upon its containing a certain amount of chicory, at least. This is not a question of the taste, or of the wholesomeness of chicory; it is that chicory has nothing at all of the properties for which you give coffee. And therefore you may as well not give it.

Again, all laundresses, mistresses of dairy-farms, head nurses, (I speak of the good old sort only—women who unite a good deal of hard manual labor with the head-work necessary for arranging the day's business, so that none of it shall tread upon the heels of something else,) set great value, I have observed, upon having a high-priced tea. This is called extravagant. But these women are extravagant in nothing else. And they are right in this. Real tea-leaf tea alone contains the restorative they want, which is not to be found in sloe-leaf tea.

The mistresses of houses, who can not even go over their own house once a day, are incapable of judging for these women; for they are incapable themselves, to all appearance, of the spirit of arrangement (no small task) necessary for managing a large ward or dairy.



you have been pleased to invest it. It requires observation and care (and meets with his) to determine what will not be too thick or so stiff as to be tedious to take, while giving him no more than which he is able to swallow.

#### VIII. BED AND BEDDING

A few words upon bedsteads and bedding, especially as regards patients who are entirely, confined to bed.

Feverishness is generally supposed to require a cool bed—in nine cases out of ten it is a symptom of it. The patient has had reintroduced into the system the effluvia from himself which day after day saturates his unaired bedding. Is this otherwise? Look at the ordinary bed in a fever hospital.

If I were looking out for an example of what *not* to do, I should take the specimen of a bed in a private house: a wooden bedstead with three mattresses piled up to the height of six feet, a blanket attached to the frame—nothing but a bed which is never thoroughly dry or air such a bed and a patient must inevitably alternate betw

with organic matter,\* and this from the time the mattresses are put under him till the time they are picked to pieces, if this is ever done.

If you consider that an adult in health exhales by the lungs and skin in the twenty-four hours three pints at least of moisture, loaded with organic matter ready to enter into putrefaction; that in sickness the quantity is often greatly increased, the quality is always more noxious—ask yourself next where does all this moisture go to? chiefly into the bedding, because it cannot go anywhere else. And it stays there; because, except perhaps a weekly change of sheets, scarcely any other airing is attempted. The nurse will be careful to fidgetiness about airing the clean sheets from clean damp, but airing the dirty sheets from noxious damp will never even occur to her. Besides this, the most dangerous effluvia we know of are from the secretions of the sick—these are placed, at least temporarily, where they must throw their effluvia into the under side of the bed, and the space under the bed is never aired; it cannot be, with our arrangements. Must not such a bed be always saturated, and be always the means of reintroducing into the system of the unfortunate patient who lies in it, that excrementitious matter to eliminate which from the body nature had expressly appointed the disease?

My heart always sinks within me when I hear the good housewife, of every class, say, "I assure you the bed has been well slept in," and I can only hope it is not true. What? is the bed already saturated with somebody else's nap before my patient comes to exhale in it his own nap? Has it not had a single chance to be aired? No, none. "It has been slept in every night."

For the same reason if, after washing a patient, you must put the same night-dress on him again, always give it a preliminary warm at the fire. The night-gown he has worn must be, to a certain extent, damp. It has now got to be dried from having been off him for a few minutes. The fire will dry and at the same time air it. This is much more important than with clean things.

The only way of really nursing a real patient have an *iron* bedstead, with rheocline springs, which permeable by the air up to the very mattress (no wall of course), the mattress to be a thin hair one; the bed to be not above three and a half feet wide. If the patient be entirely confined to his bed, there should be *two* bedsteads; each bed to be "made" with mattress, sheets, blankets, etc., complete—the patient to pass twelve hours in each bed; on no account to carry his sheets with him. The whole of the bedding to be hung up to air for intermediate twelve hours. Of course there are cases where this cannot be done at all—many more where only an approach to it can be made. I am indicating an idea of nursing, and what I have actually had done. About the kind of bedsteads there can be no doubt, where there be one or two provided.

There is a prejudice in favor of a wide bed—I believe to be a prejudice. All the refreshment of moving the patient from one side to the other of the bed is far more effectually secured by putting him into a fresh bed, than a patient who is really very ill does not stray far in his bed. But it is said there is no room to put a tray down a narrow bed. No good nurse will put a tray on a bed at all. If the patient can turn on his side, he will eat and drink comfortably from a bed side table; and on no account whatever should a bed ever be higher than a sofa. Otherwise the patient feels himself "out of humanity's reach" he can get at nothing for himself: he can move none for himself. If the patient cannot turn, a table over the bed is a better thing. I need hardly say that a patient's bed should never have its side against the wall. The patient must be able to get easily to both sides of the bed, and to reach easily every part of the patient without stretching—a thing impossible if the bed be either too wide or too high.

When I see a patient in a room nine or ten feet high, upon a bed between four and five feet high, with his



he is sitting up in bed, actually within two or three feet of the ceiling, I ask myself, is this expressly planned to produce that peculiarly distressing feeling common to the sick, viz, as if the walls and ceiling were closing in on them, and they becoming sandwiches between floor and ceiling, which imagination is not, indeed, here so far from the truth? If, over and above this, the window stops short of the ceiling, then the patient's head may literally be raised above the stratum of fresh air, even when the window is open. Can human perversity any farther go, in unmaking the process of restoration which God has made? The fact is, that the heads of sleepers or of sick should never be higher than the throat of the chimney, which ensures their being in the current of best air. And I will not suppose it possible that you have closed your chimney with a chimney-board.

If a bed is higher than a sofa, the difference of the fatigue of getting in and out of bed will just make the difference, very often, to the patient (who can get in and out of bed at all) of being able to take a few minutes' exercise, either in the open air or in another room. It is so very odd that people never think of this, or of how many more times a patient who is in bed for the twenty-four hours is obliged to get in and out of bed than they are, who only, it is to be hoped, get into bed once and out of bed once during the twenty-four hours.

A patient's bed should always be in the lightest spot in the room; and he should be able to see out of window.

I need scarcely say that the old four-post bed with curtains is utterly inadmissible, whether for sick or well. Hospital bedsteads are in many respects very much less objectionable than private ones.

There is reason to believe that not a few of the apparently unaccountable cases of scrofula among children proceed from the habit of sleeping with the head under the bed-clothes, and so inhaling air already breathed, which is farther contaminated by exhalations from the

skin. Patients are sometimes given to a similar habit and it often happens that the bed-clothes are so disposed that the patient must necessarily breathe air more or less contaminated by exhalations from his skin. A good nurse will be careful to attend to this. It is an important part, so to speak, of ventilation.

It may be worth while to remark, that where there is any danger of bed-sores, a blanket should never be placed *under* the patient. It retains damp and acts like a poultice.

Never use anything but light Whitney blankets as covering for the sick. The heavy cotton impervious counterpane is bad, for the very reason that it keeps the emanations from the sick person, while the blanket allows them to pass through. Weak patients are invariably distressed by a great weight of bed-clothes, which often prevents their getting any sound sleep whatever.

### IX. LIGHT.

It is the unqualified result of all my experience with the sick, that second only to their need of fresh air is their need of light; that, after a close room, what hurts them most is a dark room. And that it is not only light,

**NOTE.**—One word about pillows. Every weak patient, be his illness what it may, suffers more or less from difficulty in breathing. To take the weight of the body off the poor chest, which is hardly up to its work as it is, is therefore to be the object of the nurse in arranging his pillows. Now does she do and what are the consequences? She piles the pillows one upon the other like a wall of bricks. The head is thrown upon the chest. The shoulders are pushed forward, so as not to allow the lungs room to expand. The pillows, in fact, lean upon the patient, not the patient upon the pillows. It is impossible to give a rule for this, because it must vary with the figure of the patient. And tall patients suffer much more than short ones, because of the drag of the long limbs upon the waist. But the object is to support the pillows, the back below the breathing apparatus, to allow the shoulders room to fall back, and to support the head, without throwing it forward. The suffering of dying patients is immensely increased by neglect of these points. And many an invalid, too weak to drag about his pillows himself, slides his book or anything at hand behind the lower part of his back to support it.

direct sun-light they want. I had rather have the power of carrying my patient about after the sun, according to the aspect of the rooms, if circumstances permit, than let him linger in a room when the sun is off. People think the effect is upon the spirits only. This is by no means the case. The sun is not only a painter but a sculptor. You admit that he does the photograph. Without going into any scientific exposition, we must admit that light has quite as real and tangible effects upon the human body. But this is not all. Who has not observed the purifying effect of light, and especially of direct sunlight, upon the air of a room? Here is an observation within every body's experience. Go into a room where the shutters are always shut (in a sick room or a bed-room there should never be shutters shut), and though the room be uninhabited, though the air has never been polluted by the breathing of human beings, you will observe a close, musty smell of corrupt air, of air *i. e.* unpurified by the effect of the sun's rays. The mustiness of dark rooms and corners, indeed, is proverbial. The cheerfulness of a room, the usefulness of light in treating disease, is all-important.

A very high authority in hospital construction, has said that people do not enough consider the difference between wards and dormitories in planning their buildings. But I go farther, and say, that healthy people never remember the difference between bed-rooms and sick rooms, in making arrangements for the sick. To a sleeper in health it does not signify what the view is from his bed. He ought never to be in it excepting when asleep, and at night. Aspect does not very much signify either (provided the sun reach his bed-room some time in every day, to purify the air), because he ought never to be in his bed-room except during the hours when there is no sun. But the case is exactly reversed with the sick, even should they be as many hours out of their beds as you are in yours, which probably they are not. Therefore, that they



should be able, without raising themselves or turning bed, to see out of window from their beds, to see sky sunlight at least, if you can show them nothing else to assert to be, if not of the very first importance for recovery, at least something very near it. And you should therefore look to the position of the beds of your sick of the very first things. If they can see out of two windows instead of one, so much the better. Again morning sun and the mid-day sun—the hours when are quite certain not to be up, are of more importance than, if a choice must be made, than the afternoon. Perhaps you can take them out of bed in the afternoon and set them by the window, where they can see the sun. But the best rule is, if possible, to give them direct light from the moment he rises till the moment he sleeps.

Another great difference between the bed-room and the sick-room, is, that the *sleeper* has a very large bed of fresh air to begin with, when he begins the night. His room has been open all day, as it ought to be; the man has not, because all day he has been breathing air in the same room, and dirtying it by the emanations from himself. Far more care is therefore necessary to keep up a constant change of air in the sick room.

It is hardly necessary to add, that there are acute (particularly a few ophthalmic cases, and diseases, where the eye is morbidly sensitive), where a subdued light is necessary. But a dark north room is inadmissible for these. You can always moderate the light by shades and curtains.

Heavy, thick, dark window or bed curtains should however, hardly ever be used for any kind of sick in country. A light white curtain at the head of the bed is, in general, all that is necessary, and a green blind to the window, to be drawn down only when necessary.

One of the greatest observers of human things (physiological), says, in another language, "Where the sun there is thought." All physiology goes to the

those rooms free from closeness; but the carpet curtains having been turned out of the rooms altogether they became instantly as fresh as could be wished. It is pure nonsense to say that in London a room can be kept clean. Many of our hospitals show the reverse.

But no particle of dust is ever or can ever be moved or really got rid of by the present system of flapping. Dusting in these days means nothing but flapping the dust from one part of the room on to another, doors and windows closed. What you do it for I do not think. You had much better leave the dust alone if you are not going to take it away altogether. From the time a room begins to be a room up to the time when it ceases to be one, no one atom of dust eventually leaves its precincts. Tidying a room means flapping now but removing a thing from one place, which has kept clean for itself, on to another and a dirtier place. Flapping by way of cleaning is only admissible in the case of pictures, or anything made of paper. The way I know to *remove* dust, the plague of all lovers of fresh air, is to wipe every thing with a damp cloth. All furniture ought to be so made as that it may be wiped with a damp cloth without injury to itself, and so polished as that it may be dampened without injury to others. To dust as it is now practised, truly means to distribute dust more equally over a room.

\* If you like to clean your furniture by laying out your clean cloth upon your dirty chairs or sofa, this is one way certainly of doing it. Having witnessed the morning process called "tidying the room," for many years with ever-increasing astonishment, I can describe what it is. First the chairs, tables, or sofa, upon which the "things" have lain during the night, and which are therefore comparatively clean from dust or blacks, the "things" having "caught" it, they are removed to other chairs, table, or sofa upon which you could write your name with your finger in the dust. The other side of the "things" is therefore now evenly dirtied or blacked. The housemaid then flaps everything, or some things, not out of the room with a thing called a duster; the dust flies up, then re-settles more evenly than it lay before the operation. The room has now been "put to right."



as to floors, the only really clean floor I know is the lin *lackered* floor, which is wet rubbed and dry rubbed every morning to remove the dust. The French *parquet* is always more or less dusty, although infinitely superior in point of cleanliness and healthiness to our orbent floor.

For a sick room, a carpet is perhaps the worst expedient which could by any possibility have been invented. If you must have a carpet, the only safety is to take it up two or three times a year, instead of once. A dirty carpet literally infects the room. And if you consider the enormous quantity of organic matter from the feet of people coming in, which must saturate it, this is by no means surprising.

As for walls, the worst is the papered wall; the next best is plaster. But the plaster can be redeemed by frequent lime-washing; the paper requires frequent re-papering. A glazed paper gets rid of a good deal of danger. But the ordinary bed-room paper is all that ought *not* to be.\*

The close connection between ventilation and cleanliness is shown in this. An ordinary light paper will last much longer if there is an Arnott's ventilator in the chimney, than it otherwise would.

The best wall now extant is oil paint; from this you can wash the animal exuviae.†

These are what make a room musty.

The best wall for a sick-room or ward that could be made is pure white non-absorbent cement or glass, or glazed tiles, if they were made sightly enough.

I am sure that a person who has accustomed her senses to compare atmospheres proper and improper, for the sick and for children, could tell, blindfold, the difference of the air in old painted and in old papered rooms—*in paribus*. The latter will always be dusty, even with all the windows

you like to wipe your dirty door, or some portion of your dirty wall hanging up your clean gown or shawl against it on a peg, this is one way only, and the most usual way, and generally the only way, of cleaning a door or wall in a bed-room!



Air can be soiled just like water. If you blot water you will soil it with the animal matter from breath. So it is with air. Air is always soiled in a place where walls and carpets are saturated with animal exhalations.

Want of cleanliness, then, in rooms and wards, which you have to guard against, may arise in three ways.

1. Dirty air coming in from without, soiled by animal emanations, the evaporation from dirty streets, bits of unburnt fuel, bits of straw, bits of horse dung.

If people would but cover the outside walls of houses with plain or encaustic tiles, what an incalculable improvement would there be in light, cleanliness, and warmth, and consequently economy. The play of a steam engine would then effectually wash the outside of a wall. This kind of *walling* would stand next to paving, and would be proving the health of towns.

2. Dirty air coming from within, from dust, which is often displaced, but never removed. And this recalls the old saying ought to be a *sine qua non*. Have as few ledges in a room or ward as possible. And under no pretence allow any ledge whatever out of sight. Dust accumulates on every ledge and will never be wiped off. This is a certain way of soiling the air. Besides this, the animal exhalations from the inmates saturate your furniture. And if you never wash your furniture properly, how can your rooms or wards be anything but musty? Ventilate as you please, but your rooms will never be sweet. Besides this, there is a constant *degradation*, as it is called, taking place from the decay of everything except polished or glazed articles, *e. g.*, in coloring certain green papers arsenic is used. Now in the dust even, which is lying about in rooms hung with this kind of green paper, arsenic has been distinctly detected. You see your dust is anything but harmless; yet you let such dust lie about in ledges for months, years, and for ever.

Again, the fire fills the room with coal-dust.

3. Dirty air coming from the carpet. Above all, take care of the carpets, that the animal dirt left there by the feet of visitors does not stay there. Floors, unless the grain is filled up and polished, are just as bad. The smell from the floor of a school-room or ward, when any moisture brings out the organic matter by which it is saturated, might alone be enough to warn us of the mischief that is going on.

The outer air, then, can only be kept clean by sanitary improvements, and by consuming smoke. The expense in soap, which this single improvement would save, is quite incalculable.

The inside air can only be kept clean by excessive care in the ways mentioned above—to rid the walls, carpets, furniture, ledges, etc., of the organic matter and dust—dust consisting greatly of this organic matter—with which they become saturated, and which is really what makes the room musty.

Without cleanliness, you cannot have all the effect of ventilation; without ventilation, you can have no thorough cleanliness.

Very few people, be they of what class they may, have any idea of the exquisite cleanliness required in the sick-room. For much of what I have said applies less to the hospital than to the private sick-room. The smoky chimney, the dusty furniture, the utensils emptied but once a day, often keep the air of the sick constantly dirty in the best private houses.

The well have a curious habit of forgetting that what is to them but a trifling inconvenience, to be patiently "put up" with, is to the sick a source of suffering, delaying recovery, if not actually hastening death. The well are scarcely ever more than eight hours, at most, in the same room. Some change they can always make, if only for a few minutes. Even during the supposed eight hours, they can change their posture or their position in the room. But the sick man who never leaves his bed, who

cannot change by any movement of his own his air, or light, or his warmth; who cannot obtain quiet, or get rid of the smoke, or the smell, or the dust; he is really annoyed or depressed by what is to you the merest trifle.

"What can't be cured must be endured," is the worst and most dangerous maxim for a nurse that was made. Patience and resignation in her are but words for carelessness or indifference—contemptible, in regard to herself; culpable, if in regard to her sick.

### ***XI. PERSONAL CLEANLINESS.***

In almost all diseases, the function of the skin is, or less, disordered; and in many most important diseases nature relieves herself almost entirely by the skin. This is particularly the case with children. But the exertion which comes from the skin, is left there, unless removed by washing or by the clothes. Every nurse should keep this fact constantly in mind,—for, if she allow her patient to remain unwashed, or their clothing to remain on after being saturated with perspiration or other exertion, she is interfering injuriously with the natural process of health just as effectually as if she were to give the patient a dose of slow poison by the mouth. Poisoning by the skin is no less certain than by the mouth—only it is slower in its operation.

The amount of relief and comfort experienced by the patient after the skin has been carefully washed and dried, is one of the commonest observations made at a sick bed. But it must not be forgotten that the comfort and relief thus obtained are not all. They are, in fact, nothing more than a sign that the vital powers have been relieved by removing something that was oppressing them. The nurse, therefore, must never put off attending to the personal cleanliness of her patient under the plea that all that can be gained is a little relief, which can be quite as well gained later.



In all well regulated hospitals this ought to be, and generally is, attended to. But it is very generally neglected with private sick.

Just as it is necessary to renew the air around a sick person frequently, to carry off morbid effluvia from the lungs and skin, by maintaining free ventilation, so is it necessary to keep the pores of the skin free from all obstructing excretions. The object, both of ventilation and of skin-cleanliness, is pretty much the same,—to wit, removing noxious matter from the system as rapidly as possible.

Care should be taken in all the operations of sponging, washing, and cleansing the skin, not to expose too great a surface at once, so as to check the perspiration, which would renew the evil in another form.

The various ways of washing the sick need not here be specified,—the less so as the doctors ought to say which is to be used.

In several forms of diarrhœa, dysentery, etc., where the skin is hard and harsh, the relief afforded by washing with a great deal of soft soap is incalculable. In other cases, sponging with tepid soap and water, then with tepid water and drying with a hot towel will be ordered.

Every nurse ought to be careful to wash her hands very frequently during the day. If her face too, so much the better.

One word too as cleanliness merely as cleanliness.

Compare the dirtiness of the water in which you have washed when it is cold without soap, cold with soap, hot with soap. You find the first has hardly removed any dirt at all, the second a little more, the third a great deal more. But hold your hand over a cup of hot water for a minute or two, and then, by merely rubbing with the finger, you will bring off flakes of dirt or dirty skin. After a vapour bath you may peel your whole self clean in this way. What I mean is, that by simply washing or sponging with water you do not really clean your skin. Take

a rough towel, dip one corner in very hot water,—a little spirit be added to it it will be more effectual,—then rub as if you were rubbing the towel into your skin with your fingers. The black flakes which will come off will convince you that you were not clean before, however much soap and water you may have used. These flakes are what require removing. And you can really keep yourself cleaner with a tumbler of hot water and a rough towel and rubbing, than with a whole apparatus of bath and soap and sponge, without rubbing. It is quite nonsense to say that anybody need be dirty. Patients have been kept as clean by these means on a long voyage when a basin full of water could not be afforded, when they could not be moved out of their berths, when all the appurtenances of home had been at hand.

Washing, however, with a large quantity of water, has quite other effects than those of mere cleanliness. The skin absorbs the water and becomes softer and more pliable. To wash with soap and soft water is, therefore, desirable from other points of view than that of cleanliness.

## XII. CHATTERING HOPES AND ADVICES

The sick man to his advisers:

“My advisers! Their name is legion. \* \* \*

Somehow or other, it seems a provision of the universal destinies, that every man, woman and child, should consider him, her, or itself, privileged especially to advise. Why? That is precisely what I want to know.” This is what I have to say to them. I have been advised to go to every place extant in and out of England and take every kind of exercise by every kind of cart, carriage—yes, and even swing (!) and dumb-bell (!) in exercise; to imbibe every different kind of stimulus that ever has been invented. And this, when those best fitted to know, viz: medical men, after long and close attendance, had declared any journey out of the question.



hibited any kind of motion whatever, had closely laid down the diet and drink. What would my advisers say, were they the medical attendants, and I, the patient, left for advice, and took the casual adviser's? But the singularity in Legion's mind is this: it never occurs to him that every body else is doing the same thing, and that I, the patient, *must* perforce say, in sheer self-defense, like Rosalind, "I could not do with all."

"Chattering Hopes" may seem an odd heading; but I fully believe there is scarcely a greater worry which invalids have to endure than the incurable hopes of their friends. There is no one practice against which I can speak more strongly from actual personal experience, wide and long, of its effects during sickness observed both upon others and upon myself. I would appeal most seriously to all friends, visitors, and attendants of the sick, to leave off this practice of attempting to "cheer" the sick by making light of their danger, and by exaggerating their probabilities of recovery.

Far more now than formerly does the medical attendant tell the truth to the sick, who are really desirous to hear it about their own state.

How intense is the folly, then, to say the least of it, of the friend, be he even a medical man, who thinks that his opinion, given after a cursory observation, will weigh with the patient, against the opinion of the medical attendant, given, perhaps, after years of observation, after using every help to diagnosis afforded by the stethoscope, the examination of pulse, tongue, etc.; and certainly after much more observation than the friend can possibly have had.

Supposing the patient to be possessed of common sense—how can the favorable opinion, if it is to be called an opinion at all, of the casual visitor, cheer him—when different from that of the experienced attendant? Unquestionably the latter may, and often does, turn out to be wrong. But which is most likely to be wrong?



The fact is, that the patient\* is not cheered at all by these well meaning, most tiresome friends. On the contrary, he is depressed and wearied. If, on the other hand, he exerts himself to tell each successive member of this too numerous conspiracy, whose name is legion, he does not think as they do—in what respect he is worse—what symptoms exist that they know nothing of—he is fatigued instead of cheered, and his attention is turned upon himself. In general, patients who are really ill, do not want to talk about themselves. Hypochondriacs do not. Again I say, we are not on the subject of hypochondria.

If, on the other hand, and which is much more frequently the case, the patient says nothing, but the Sheperdian "Oh!" "Ah!" "Go to!" and, "In good sooth," in order to escape from the conversation about himself, sooner or later he is depressed by want of sympathy. He is isolated in the midst of friends. He feels what a loneliness it would be, if there were any single person to

\* There are, of course, cases, as in first confinements, when an allusion from the doctor, or experienced nurse, to the frightened, suffering woman that there is nothing unusual in her case, that she has nothing to fear but a few hours' pain, may cheer her most effectually. This is advice of quite a different order. It is the advice of experience to utter inexperience. But the advice we have been referring to, is, the advice of inexperience to bitter experience, and, in general, amounts to nothing more than this, that you think you will recover from consumption because some body knows some body else who has recovered from fever.

I have heard a doctor condemned whose patient did not, alas! because another doctor's patient, of a different sex, of a different age, and of a different disease, in a different place. Yes, this is really the fault of people who make these comparisons did but know (only they do not know), the care and preciseness with which such comparisons require to be made (and are made), in order to be of any value whatever, they spare their tongues. In comparing the deaths of one hospital with another, any statistics are justly considered absolutely valueless, which do not give the ages, the sexes, and the diseases of all the cases. It is not necessary to mention this. It does not seem necessary to say that there can be no comparison between old men with dropsies and young women with consumptions. Yet the cleverest men and the cleverest women are often making such comparisons, ignoring entirely sex, age, disease, place—all the conditions essential to the question. It is the merest gossip.

he could speak simply and openly, without pulling the string upon himself of this shower-bath of silly hopes and encouragements; to whom he could express his wishes and directions without that person persisting in saying, "I hope that it will please God yet to give you twenty years;" or, "You have a long life of activity before you." How often we see at the end of biographies, or of cases recorded in medical papers, "After a long illness A. died rather suddenly," or "unexpectedly both to himself and to others." "Unexpectedly" to others, perhaps, who did not see, because they did not look; but by no means "unexpectedly to himself," as I feel entitled to believe, both from the internal evidence in such stories, and from watching similar cases; there was every reason to expect that A. would die, and he knew it; but he found it useless to insist upon his own knowledge to his friends.

In these remarks I am alluding neither to acute cases which terminate rapidly, nor to "nervous" cases.

By the first much interest in their own danger is very rarely felt. In writings of fiction, whether novels or biographies, these death-beds are generally depicted as almost seraphic in lucidity of intelligence. Sadly large has been my experience in death-beds, and I can only say that I have seldom or never seen such. Indifference, except with regard to bodily suffering, or to some duty the dying man desires to perform, is the far more usual state.

The "nervous case," on the other hand, delights in figuring to himself and others a fictitious danger.

But the long chronic case, who knows too well himself, and who has been told by his physician that he will never enter active life again; who feels that every month he has to give up something he could do the month before—Oh! spare such sufferers your chattering hopes. You do not know how you worry and weary them. Such real sufferers can not bear to talk of themselves, still less to hope for what they can not at all expect.



So also as to all the advice showered so profusely upon such sick, to leave off some occupation, to try some other doctor, some other house, climate, pill, powder, or specific. I say nothing of the inconsistency; for these advisers are sure to be the same persons who exhorted the sick man not to believe his own doctor's prognostics, because "doctors are always mistaken;" but to believe some other doctor, because "this doctor is always right." Sure also are these advisers to be the persons to bring the sick man to a fresh occupation, while exhorting him to leave his own.

Wonderful is the face with which friends, lay and medical, will come in and worry the patient with recommendations to do something or other, having just as little knowledge as to its being feasible, or even safe for him, as if they were to recommend a man to take exercise, not knowing he had broken his leg. What would the friend say, if *he* were the medical attendant, and if the patient, because some *other* friend had come in—because somebody, anybody, nobody, had recommended something, anything, nothing, were to disregard *his* orders, and take that other body's recommendation? But people never think of this.

A celebrated historical personage has related the commonplaces which, when on the eve of executing a remarkable resolution, were showered in nearly the same words by every one around successively for a period of six months. To these the personage states that it was found least trouble always to reply the same thing, viz. that it could not be supposed that such a resolution had been taken without sufficient previous consideration. To patients enduring every day for years, from every friend or acquaintance, either by letter or *viva voce*, some comment of this kind, I would suggest the same answer. It would indeed be spared, if such friends and acquaintances would but consider for a moment, that it is probable the patient has heard such advice at least fifty times before, and that, had it been practicable, it would have been



actised long ago. But of such consideration there appears to be no chance. Strange, though true, that people could be just the same in these things as they were a few hundred years ago!

To me these commonplaces, leaving their smear upon a cheerful, single-hearted, constant devotion to duty, which is so often seen in the decline of such sufferers, recall the slimy trail left by the snail on the sunny southern garden wall loaded with fruit.

No mockery in the world is so hollow as the advice lowered upon the sick. It is of no use for the sick to say anything; for what the adviser wants is, *not* to know the truth about the state of the patient, but to turn whatever the sick may say to the support of his own argument, set forth, it must be repeated, without any inquiry whatever into the patient's real condition. "But it would be impertinent or indecent in me to make such an inquiry," says the adviser. True; and how much more impertinent is it to give your advice when you can know nothing about the truth, and admit you could not inquire into it.

To nurses I say, these are the visitors who do your patient harm. When you hear him told, 1. That he has nothing the matter with him, and that he wants cheering.

That he is committing suicide, and that he wants preventing. 3. That he is the tool of somebody who makes use of him for a purpose. 4. That he will listen to nobody, but is obstinately bent upon his own way; and, 5. That he ought to be called to a sense of duty, and is flying in the face of Providence—then know that your patient is receiving all the injury that he can receive from a visitor.

How little the real sufferings of illness are known or understood. How little does any one in good health pry him or even *herself* into the life of a sick person. Do, you who are about the sick or who visit the sick, and give them pleasure, remember to tell them what

It has been very justly said that the sick are children in this, that there is no *proportion* in events. Now, it is your business, as their visitor, to render right proportion for them—to show them what the world is doing. How can they find it wise? You will find them far more open to it than children in this. And you will find that the reasonable intensity of suffering from unkindness, loss of sympathy, etc., will disappear with their interest in the big world's events. But then you are able to give them real interest, not gossip.

### XIII. OBSERVATION OF THE SICK.

There is no more silly or universal question asked than this: "Is he better?" Ask it of the attendant, if you please. But of whom else, if you want for a real answer to your question, would you turn? Certainly not of the casual visitor; certainly not of the nurse, while the nurse's observation is so little exercised now. What you want are facts, not opinions—facts which have any opinion of any value as to whether the patient is better or worse, excepting the constant medical observation of the really observing nurse?

The most important practical lesson that can be taught to nurses, is to teach them what to observe—what to serve—what symptoms indicate improvement—what symptoms reverse—which are of importance—which are

**NOTE.**—There are two classes of patients which are unfortunately more common every day, especially among women of the rich, to whom all these remarks are pre-eminently inapplicable. 1. Those who take ill-health an excuse for doing nothing, and at the same time allege that their inability to do nothing is their only grief. 2. Those who have brought on themselves ill-health by over pursuit of amusement, which they and the world have most unhappily called intellectual activity. I scarcely know of any injury that can be inflicted, than the advice too often given to them to "vegetate," or than the admiration too often bestowed on their "pluck."

ich are the evidence of neglect—and of what kind of neglect.

All this is what ought to make part, and an essential part, of the training of every nurse. At present, however, there are, either professional or unprofessional, who hardly know at all whether any sick person they may be attending, is better or worse.

The vagueness and looseness of the information one gives in answer to that much abused question, "Is he better?" would be ludicrous, if it were not painful. The only sensible answer (in the present state of knowledge about sickness) would be, "How can I know? I can not tell how he was when I was not with him."

I can record but a few specimens of the answers\* which

It is a much more difficult thing to speak the truth than people commonly imagine. There is the want of observation simple, and the want of observation compound, compounded, that is, with the imaginative faculty. Both equally intend to speak the truth. The information of the first is simply defective. That of the second is much more dangerous. The first gives, in answer to a question asked about a thing that has been before his eyes for years, information exceedingly imperfect, or says, he does not know what has never observed. And people simply think him stupid.

The second has observed just as little, but imagination immediately steps in and he describes the whole thing from imagination merely, being perfectly convinced all the while that he has seen or heard it; or he will repeat a whole conversation, as if it were information which had been addressed to him; whereas it is merely what he has himself said to some body else. This is the worst of all. These people do not even observe that they have not observed, nor remember that they have forgotten.

Courts of justice seem to think that any body can speak "the whole truth, nothing but the truth," if he does but intend it. It requires many faculties combined of observation and memory to speak "the whole truth!" and to "nothing but the truth."

I know I fibe dreadful; but believe me, Miss, I never find out I have lied until they tell me so," was a remark actually made. It is also one of the more extended application than most people have the least idea of. The concurrence of testimony, which is so often adduced as final proof, may be nothing more, as is well known to those accustomed to deal with the inobservant imaginative, than that one person has told his story a great many times.

I have heard thirteen persons concur in declaring that a fourteenth, who never left his bed, went to a distant chapel every morning at seven o'clock.



sir. This generally means that the  
emptied once, it having been used per  
times.

"Do you think the patient is much  
six weeks ago?" "Oh no, sir; you know  
since he has been up and dressed, and  
the room now." This means that the  
served that, whereas, six weeks ago, he  
pied himself in bed, he now lies still de  
although he can "get across the room  
for five seconds.

Another patient who is eating well,  
although slowly, from fever, but can  
is represented to the doctor as making  
Questions, too, as asked now (but  
about patients, would obtain no infor  
them, even if the person asked of had  
to give. The question is generally  
and it is singular that people never tell  
the answer to this question before  
stance, "Has he had a good night?"  
will think he has had a bad night if  
hours without waking. Another doctor  
a bad night if he has had intervals of  
The same answer has actually been giv

twenty-four hours, and died of it, and another who not slept the sleep of a regular night without waking. Can not the question be asked, How many hours' has —— had? and at what hours of the night? \*ave never closed my eyes all night"—an answer asiently made when the speaker has had several hours'as when he has had none, would then be less often

Lies, intentional and unintentional, are much sel-er told in answer to precise than to leading questions.ther frequent error is to inquire whether one causeains, and not whether the effect which may be prodby a great many different causes, *not* inquired after,ains. As when it is asked, whether there was noiseie street last night; and if there were not, the patientported, without more ado, to have had a good night.ents are completely taken aback by these kinds ofing questions, and give only the exact amount of in-ation asked for, even when they know it to be com-ely misleading. The shyness of patients is seldom al-ed for.

low few there are who, by five or six pointed ques-s, can elicit the whole case, and get accurately tow and to be able to report *where* the patient is.

knew a very clever physician, of large dispensary andpital practice, who invariably began his examinationach patient with, "Put your finger where you be bad."it man would never waste his time with collecting in-urate information from nurse or patient. Leadingstions always collect inaccurate information.

at a recent celebrated trial, the following leading ques- was put successively to nine distinguished medical

This is important, because on this depends what the remedy will be. Ifient sleeps two or three hours early in the night, and then does not sleepn at all, ten to one it is not a narcotic he wants, but food or stimulus, oraps only warmth. If, on the other hand, he is restless and awake allt, and is drowsy in the morning, he probably wants sedatives—eitheroolness, or medicine, a lighter diet, or all four. Now, the doctorld be told this, or how can he judge what to give?

friends of the patient at all. They v  
him than not. And as often by mak  
worse as better than he really is.

In the case of infants, *everything* mu  
accurate observation of the nurse or  
report. And how seldom is this co  
fulfilled.

A celebrated man, though celebrat  
things, has told us that one of the r  
education of his son, was to give hi  
accurate observation, a certainty of p  
for this purpose one of his means wa  
as follows:—he took the boy rapidly p  
father and son then described to eac  
the objects as they could, which they  
the windows, noting them down with  
and returning afterwards to verify th  
The boy always succeeded best, *e. g.*, if  
thirty objects, the boy did 40, and so  
mistake.

I have often thought how wise a pie  
would be for much higher objects; an  
nurses the thing itself is essential. F  
said, not that the habit of ready and  
will by itself make us useful nurses



ent, who took away his meals day after day all but untouched, and never knew it.

If you find it helps you to note down such things on a bit of paper, in pencil, by all means do so. I think it more often lames than strengthens the memory and observation. But if you cannot get the habit of observation one way or other, you had better give up the being a nurse, for it is not your calling, however kind and anxious you may be.

Surely you can learn at least to judge with the eye how much an ounce of solid food is, how much an ounce of liquid. You will find this helps your observation and memory very much; you will then say to yourself, "A. took about an ounce of his meat to day;" "B. took three times in twenty-four hours about one-half pint of beef tea;" instead of saying "B. has taken nothing all day," or "I gave A. his dinner as usual."

I have known several of our real old-fashioned hospital "sisters," who could, as accurately as a measuring glass, measure out all their patients' wine and medicine by the eye, and never be wrong. I do not recommend this, one must be very sure of one's self to do it. I only mention it, because if a nurse can by practice measure medicine by the eye, surely she is no nurse who can't measure by the eye about how much food (in ounces) her patient has taken.\* In hospitals those who cut up the diet give with

\*It may be too broad an assertion, and it certainly sounds like a paradox. But I think in no country are women to be found so deficient in ready and sound observation as in England, while peculiarly capable of being trained to it. The French or Irish woman is too quick of perception to be so sound an observer—the Teuton is too slow to be so ready an observer as the English woman might be. Yet English women lay themselves open to the charge so often made against them by men, viz., that they are not to be trusted in handicrafts to which their strength is quite equal, for want of a practised and steady observation. In countries where women (with average intelligence certainly not superior to that of English women) are employed, e. g., in dispensing, and responsible for what these women do (not theorizing about man's and woman's "mission.") have stated that they preferred the service of women to men exact, more careful, and incurring fewer mistakes

sufficient accuracy, to each patient, his twelve ounces of meat without weighing. Yet a nurse will often have patients loathing all food and incapable of any will to get well, who just tumble over the contents of the plate or dip the spoon in the cup to deceive the doctor, and she will take it away without ever seeing that the patient has just the same quantity of food as when she brought it. When she will tell the doctor, too, that the patient has eaten his diets as usual, when all she ought to have meant is that she has taken away his diets as usual.

Now, what kind of a nurse is this?

I would call attention to something else, in which nurses frequently fail in observation. There is a marked distinction between the excitable and what we call the *accumulative* temperament in patients. One will blaze up at once, under any shock or anxiety, and then settle very comfortably after it; another will seem quite calm and even torpid, under the same shock, and people

Now certainly English women are peculiarly capable of attaining to this habit of observation. I remember when a child, hearing the story of an accident, related that one who sent two girls to fetch a "bottle of salvolatile from her room," "Mary could not stir," she said, "Fanny ran and fetched a bottle of water, not salvolatile, and that was not in my room."

Now this sort of thing pursues every one through life. A woman who goes to fetch a large new bound red book, lying on the table by the window, she fetches five small old boarded brown books lying on the shelf by the door. And this, though she has "put that room to rights" every day for years, perhaps, and must have observed the books every day, lying in the same places, for a month, if she had any observation.

Habitual observation is more necessary, when any sudden call arises. "Fanny" had observed "the bottle of salvolatile" in the aunt's room every day she was there, she would more probably have found it when it was suddenly wanted.

There are two causes for these mistakes of inadvertence. 1. A want of attention; only part of the request is heard at all. 2. A want of the habit of observation.

To a nurse I would add, take care that you always put the same things in the same places; you don't know how suddenly you may be called away one day to find something, and may not be able to remember in your haste where you yourself had put it, if your memory is not in the habit of seeing things in their places there always.

hardly felt it at all," yet you will find him some time slowly sinking. The same remark applies to the use of narcotics, of aperients, which, in the one, take effect directly, in the other not perhaps for twenty-four hours. A journey, a visit, an unwonted exertion, will affect the one immediately, but he recovers after it; the other bears it very well at the time, apparently, and dies, is prostrated for life by it. People often say how difficult the excitable temperament is to manage. I say how difficult is the *accumulative* temperament. With the first you have an outbreak which you could anticipate, and it is all over. With the second you never know where you are—you never know when the consequences are over. And it requires your closest observation to know what are the consequences of what—for the consequent by no means follows immediately upon the antecedent—and your observation is utterly at fault.

Almost all superstitions are owing to bad observation, the *post hoc, ergo propter hoc*; and bad observers are most all superstitious. Farmers used to attribute disease among cattle to witchcraft; weddings have been attributed to seeing one magpie, deaths to seeing three; and I have heard the most highly educated, now-a-days, draw consequences for the sick closely resembling these. Another remark: although there is unquestionably a physiognomy of disease as well as of health; of all parts of the body, the face is, perhaps, the one which tells the most to the common observer or casual visitor. Because, of all parts of the body, it is the one most exposed to external influences beside health. And people never, or scarcely ever, observe enough to know how to distinguish between the effect of exposure, of robust health, of a ruddy skin, of a tendency to congestion, of inflammation, or many other things. Again, the face is the last to show emaciation. I should say that the pulse is a much surer test than the face, both as to heat, cold, circulation, etc. It is true, that there are some persons



he *looks* well, or ill, or better, or worse.

Wonderful is the way in which people's slightest observation, or often upon no other ground than upon some *saw*, which the world had any, would have pronounced utterly.

I have known patients dying of sheer want of sleep, from one of the most painful diseases known, preserve, till death, not only the healthy color of the face, but the mottled appearance of a robust child. Times have I heard these unfortunate people say, with, "I am glad to see you looking so well," "no reason why you should not live to this age;" "Why don't you take a little amusement," with all other common remarks we are so familiar with.

There is, unquestionably, a physician's eye. Let the nurse learn it.

The experienced nurse can always tell if a patient has taken a narcotic the night before, by the color about the face, when the reaction has set in; that very color which would point to as a proof of health.

There is, again, a faintness, which do

Yet, these two faintnesses are perfectly distinguishable by the mere countenance of the patient.

Again, the nurse must distinguish between the idiosyncracies of patients. One likes to suffer out all his suffering alone, to be as little looked after as possible. Another likes to be perpetually made much of and pitied, and to have some one always by him. Both these peculiarities might be observed and indulged much more than they are. For quite as often does it happen that a busy attendance is forced upon the first patient, who wishes for nothing but to be "let alone," as that the second is left to think himself neglected.

Again, I think that few things press so heavily on one suffering from long and incurable illness, as the necessity of recording in words from time to time, for the information of the nurse, who will not otherwise see, that he can not do this or that, which he could do a month or a year ago. What is a nurse there for if she can not observe these things for herself? Yet I have known—and known, too, among those, and chiefly among those—whom money and position put in possession of every thing which money and position could give—I have known, I say, more accidents (fatal, slowly or rapidly), arising from this want of observation among nurses than from almost anything else. Because a patient could get out of a warm bath alone a month ago—because a patient could walk as far as his bell a week ago, the nurse concludes that he can do so now. She has never observed the change; and the patient is lost from being left in a helpless state of exhaustion, till some one accidentally comes in. And this not from any unexpected apoplectic, paralytic, or fainting fit (though even these could be expected far more, at least, than they are now, if we did but *observe*). No, from the unexpected, or to be expected, inevitable, visible, calculable, uninterrupted increase of weakness, which none need fail to observe.

Again, a patient not usually confined to bed, is com

pelled by an attack of diarrhœa, vomiting, or other accident, to keep his bed for a few days; he gets up the first time, and the nurse lets him go into another room without coming in, a few minutes afterward, to look after him. It never occurs to her that he is quite cold, or faint, or cold, or to want something. She says, "excuse, Oh, he does not like to be fidgetted after," he said so some weeks ago; but he never said he did not like to be "fidgetted after," when he is in a state of weakness now; and if he did, you ought to make some excuse to go in to him. More patients have been lost in this manner than is at all generally known, viz: from relapse on by being left for an hour or two faint, or cold, or hungry, after getting up for the first time.

Yet it appears that scarcely any improvement in the faculty of observing is being made. Vast has been the increase of knowledge in pathology—that science teaches us the final change produced by disease in the human frame—scarce any in the art of observing the signs of the change while in progress. Or, rather, not to be feared that observation, as an essential part of medicine, has been declining?

Which of us has not heard fifty times, from another, a nurse, or a friend of the sick—aye, and a philosophical friend too, the following remark: "So A is dead. B is dead. I saw him the day before; I thought he was much better; there certainly was no appearance of death which one could have expected so sudden (?) a death. I have never heard any one say, though one would think it the more natural thing, "There *must* have been some appearance, which I should have seen if I had but let me try and remember what there was, that I might serve another time." No; this is not what people say. They boldly assert that there was nothing to observe, and that their observation was at fault.

Let people who have to observe sickness and death go back and try to register in their observation the



which have preceded relapse, attack, or death, and that there were none, or that there were not ones.\*

that of the habit of observing conditions, and an inability of taking averages, are each of them often misleading.

In whose profession, like that of medical men, leads to observe only, or chiefly, palpable and permanent changes, are often just as wrong in their opinion as those who do not observe at all. For instance, there is a broken leg; the surgeon has only to look at it to know; it will not be different if he sees it in the morning to what it would have been had he seen it in the evening. And in whatever conditions the patient is likely to be, there will still be the broken leg, as it is set. The same with many organic diseases. An experienced physician has but to feel the pulse once, and knows that there is aneurism which will kill somewhere.

Even though the great majority of cases, there is nothing to be added; and the power of forming any correct opinion of the result must entirely depend upon an insight into all the conditions in which the patient lives. The complicated state of society in large towns, death, as even of great experience knows, is far less often produced by any one organic disease than by some illness, or by other diseases, producing just the sum of experience necessary for death. There is nothing so absurd,

as to say few ever to have had the opportunity of observing the different changes in the human face puts on at the sudden approach of certain diseases, such as by violence; and as it is a knowledge of little use, I only mention it as being the most startling example of what I mean. In the case of a fever, the face becomes pale, (this is the only recognized change in the sanguine temperament purple; in the bilious yellow, or every color in patches. Now, it is generally supposed that paleness is a sign of almost any violent change in the human being, whether it be disease, or anything else. There can be no more false observation, it is the one recognized livery, as I have said—*de rigueur* in everywhere else.

nothing so misleading as the verdict one so often hears. So and so has no organic disease—there is no reason why he should not live to extreme old age; sometimes the clause is added, sometimes not: Provided he is quiet, good food, good air, etc., etc., etc.: the verdict is repeated by ignorant people *without* the latter clause, and there is no possibility of the conditions of the latter clause being obtained; and this, the *only* essential part of the whole, is made of no effect. I have heard a physician, deservedly eminent, assure the friends of a patient of recovery. Why? Because he had now prescribed a course, every detail of which the patient had followed for years; and because he had forbidden a course which the patient could not by any possibility alter.\*

\* I have known two cases, the one of a man who intentionally and fraudulently displaced a dislocation, and was kept and petted by all the doctors, the other of one who was pronounced to have nothing the matter with him, there being no organic change perceptible, but who died within the week. In both these cases it was the nurse, who, by accurately pointing out what the doctor had accurately observed, to the doctors, saved the one case from perishing in a fraud, the other from being discharged when actually in a dying state.

I will even go further and say, that in diseases which have their origin in the feeble or irregular action of some function, and not in organic change, it is quite an accident if the doctor, who sees the case only once a day, and generally at the same time, can form any but a negative idea of its relation. In the middle of the day, when such a patient has been refreshed by light and air, by his tea, his beet-tea, and his brandy, by hot bottles to his feet, by being washed and by clean linen, you can scarcely believe that the same person as lay with a rapid fluttering pulse, with puffed eyelids, short breath, cold limbs, and unsteady hands, this morning. Now, what can the nurse do in such a case? Not cry, "Lord, bless you, sir, why you thought he were a dying all night." This may be true, but it is not to impress with the truth a doctor, more capable of forming a judgment of the facts, if he did but know them, than you are. What he wants is your opinion, however respectfully given, but your facts. In all diseases, however important, but in diseases which do not run a distinct and fixed course, the only important, it is essential, that the facts the nurse alone can observe should be accurately observed, and accurately reported to the doctor.

I must direct the nurse's attention to the extreme variation there is frequently in the pulse of such patients during the day. A very common instance is this: Between 3 and 4 A. M., the pulse becomes quick, perhaps 130; and thready it is not like a pulse at all, but like a string vibrating just un-

s of a house, than the most scientific physician  
the same persons are brought to have their  
no inquiry being made into their conditions.

Insurance, and such like societies, were they,  
having the person examined by the medical  
ave the houses, conditions, ways of life, of these  
amined, at how much truer results would they  
V. Smith appears a fine hale man, but it might  
that the next cholera epidemic he runs a bad

fter this the patient gets no more sleep. About midday the pulse  
rn to 80 ; and though feeble and compressible, is a very respect-  
At night, if the patient has had a day of excitement, it is almost  
But, if the patient has had a good day, it is stronger and  
not quicker than at midday. This is a common history of a  
e ; and others, equally varying during the day, might be given.  
mmation, which may almost always be detected by the pulse, in  
, which is accompanied by the low pulse that nothing will raise,  
ch great variation ; and doctors and nurses become accustomed  
r it. The doctor indeed cannot. But the variation is in itself  
feature.

the above often "go off rather suddenly," as it is called, from  
ailment of a few days, which just makes up the sum of exhaus-  
ry to produce death. And everybody cries, Who would have  
except the observing nurse, if there is one, who had always ex-  
haustion to come, from which there would be no rally, because  
patient had no capital in strength on which to draw, if he failed



will be the ones to survive might also

Averages again seduce us away from the truth. "Average mortalities" merely tell us that a certain per cent. die in this town, and so many more in that. But whether A or B will be among the survivors, or the "average rate" of course does not tell. We know that twenty-two to twenty-four per thousand die in London next year; but minute inquiries are made, and are able us to know that in such a district, or in such a street, or even on one side of that street, or in that particular house, or even on one floor of that house, there will be the excess of mortality, that is, more deaths than who ought not to have died before old age.

Now, would it not very materially improve our knowledge, whoever were endeavoring to form a correct estimate from that floor of that house, of the number that came?

Much more precise might be our observations, and much more correct our conclusions.

It is well known that the same names are constantly recurring on workhouse books, and that is, the persons were born and bred in the same place, after generation, in the conditions we call poverty. Death and disease are like the workhouse, they are the same family, the same house, or, the same conditions. Why will we not inquire more?

according to their own account, subscribed for dysentery, and left the patient. This is an extreme case; but in a manner of acting falls under the same. How often the attendants of a case knew perfectly well that the patient was in such an air, in such a room, or under such circumstances, yet have gone on dosing him with medicine, without any effort to remove the poison from him. The poison which they knew was killing him, they have sometimes not so much as mentioned in the right quarter—that is, to the proper authorities, who could act in the matter.

#### CONCLUSION.

The whole of the preceding remarks apply to children and to puerperal women as well as to the general. They also apply to the treatment of disease quite as much as to that of medical prevention. In all the possible cases of external injury, even more than sick. In surgical cases, every nurse certainly is *prevention*. In cases of gangrene, or purulent discharge of suppuration, she supervenes. Has she a case of compound fracture, she can do much to prevent the patient from becoming septic.

discharge, she may see a vigorous patient in life gradually sink and die where, according to probability, he ought to have recovered.

The nurse must ever be on the watch, ever on guard against want of cleanliness, foul air, want of warmth.

Let us, let no one think that because *sanitary* is the subject of these notes, therefore, what may be called handicraft of nursing, is to be undervalued.

A patient may be left to bleed to death in a sanitary parlour, who can not move himself, may die of disease because the nurse does not know how to change his position, while he has every requisite of air, light, &c. But nursing, as a handicraft, has not been treated for three reasons: 1. That these notes do not pretend to be a manual for nursing, any more than a book for the sick. 2. That the writer, who has no more of what may be called surgical nursing, than manual nursing, than, perhaps, any one in the country, justly believes that it is impossible to learn it in a book, and that it can only be thoroughly learnt in the practice of a hospital; and she also honestly believes that the perfection of surgical nursing may be seen in the old-fashioned "sister" of a London hospital, who is to be seen nowhere else in Europe. 3. While the prevalence of foul air, etc., who have this surgical perfection, the converse is comparatively rare.

in children. They are much more susceptible to all noxious influences. They are much more susceptible to all noxious influences. They are much more susceptible to all noxious influences.

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greater in the case of children, greatest in the case of children, of attending to these things.

That which, however, above all, is known to injure children seriously, is foul air, and most seriously at night. Keeping the rooms where they sleep tight shut is a destruction to them. And, if the child's breathing is disordered by disease, a few hours only of such foul air may endanger its life, even where no inconvenience is felt by grown up persons in the same room.

The following passages, taken out of an excellent "Treatise on Sudden Death in Infancy and Childhood," published, show the vital importance of careful nursing of children: "In the great majority of instances, when death suddenly befalls the infant or young child, it is an *accident*; it is not a necessary result of any disease in which it is suffering."

It may be here added, that it would be very desirable to know how often death is, with adults, "not a necessary inevitable result of any disease." Omit the word "sudden" (for *sudden* death is comparatively rare in middle age), and the sentence is almost equally true for all.

The following causes of "accidental" death in children are enumerated: "Sudden noises, which startle; a rapid change of temperature, which chills the surface, though only for a moment; a rude awakening from sleep; or even an over-hasty or over-full meal;" "any sudden impression on the nervous system; any hasty alteration of posture; in short, any cause whatever by which the respiratory process may be disturbed."

It may again be added, that, with very weak patients, these causes are also (not often "suddenly fatal" as it is true, but), very much oftener than is at all generally known, irreparable in their consequences.

Both for children and for adults, both for sick and for well (although more certainly in the case of sick children than in any others), I would here again repeat, that the most frequent and most fatal cause of all is sleeping, for even

hours, much more for weeks and months, in for air condition which, more than any other condition, disturbs the respiratory process, and tends to produce "accidental" death in disease.

I need hardly here repeat the warning against any communion of ideas between cold and fresh air. You may kill a patient fatally without giving him fresh air at all. And you can quite well, nay, much better, give him fresh air without chilling him. This is the test of a good nurse.

In cases of long recurring faintness from disease, for instance, especially disease which affects the organs of breathing, fresh air to the lungs, warmth to the surface, and often (as soon as the patient can swallow), hot drink; these are the right remedies and the only ones. Yet, oftener than not, you see the nurse or mother just reversing this; shutting up every cranny through which fresh air can enter, and leaving the body cold, or perhaps browng a greater weight of clothes upon it, when already it is generating too little heat.

"Breathing carefully, anxiously, as though respiration were a function which required all the attention for its performance," is cited as a not unusual state in children, and as one calling for care in all the things enumerated above. That breathing becomes an almost voluntary act, even in grown up patients who are very weak, must often have been remarked.

"Disease having interfered with the perfect accomplishment of the respiratory function, some sudden demand for its complete exercise, issues in the sudden stand-still of the whole machinery," is given as one process—"life goes out for want of nervous power to keep the vital motions in activity," is given as another, by which "accidental" death is most often brought to pass in infancy. Also, in middle age, both these processes may be seen leading in death, although generally not suddenly. And

for the art of nursing.

(1.) It is often said by men, that it is not for women any thing about these laws of physic, but will take to physicking—that there is too much of amateur physicking as it is, &c. One eminent physician told me that he had never seen calomel given, both at a pinch and for common cases, to mothers, governesses, and nurses, to whom I have ever heard of a physician prescribing it. Another says, that women's only idea of physic is calomel and aperients. This is, undoubtedly, the case. There is nothing ever seen in attendance like the reckless physicking by

\* I have known many ladies who, having once obtained a prescription from a physician, gave and took it as a common thing several times a week—with what effect may be supposed. I have known one lady be the person to inform the physician of it, who substituted a comparatively harmless aperient pill. The lady came back and said that it “did not suit her half so well.”

If women will take or give physic, by far the safest way is to consult a doctor every time—for I have known ladies who have done so who would not take the pains to learn the names of the different medicines, and confounded, *e. g.*, colocynth with colchicum. They have thus edged tools with a vengeance.

There are excellent women who will write to London for a prescription when there is much sickness in their neighborhood in the hope of obtaining a prescription from him, which they used to like the



But this is just what the really experienced and observing nurse does *not* do; she neither physicks herself nor others. And to cultivate in things pertaining to health, observation and experience in women who are mothers, governesses, or nurses, is just the way to do away with amateur physicking, and if the doctors did but know it, to make the nurses obedient to them—helps to them instead of hindrances. Such education in women would indeed diminish the doctor's work—but no one really believes that doctors wish that there should be more illness, in order to have more work.

(2.) It is often said by women, that they can not know any thing of the laws of health, or what to do to preserve their children's health, because they can know nothing of "pathology," or can not "dissect"—a confusion of ideas which it is hard to attempt to disentangle. Pathology teaches the harm that disease has done. But it teaches nothing more. We know nothing of the principle of health, the positive of which pathology is the negative, except from observation and experience. And nothing but observation and experience will teach us the ways to maintain or to bring back the state of health. It is often thought that medicine is the curative process. It

Homœopathy has introduced one essential amelioration in the practice of physic by amateur females; for its rules are excellent, its physicking comparatively harmless; the "globule" is the one grain of folly which appears to be necessary to make any good thing acceptable. Let, then, women, if they will give medicine, give homœopathic medicine. It won't do any harm.

An almost universal error among women is the supposition that every body must have the bowels opened once in every twenty-four hours, or must fly immediately to aperients. The reverse is the conclusion of experience.

This is a doctor's subject, and I will not enter more into it; but will simply repeat, do not go on taking or giving to your children your abominable courses of aperients, without calling in the doctor.

It is very seldom, indeed, that by choosing your diet, you can not regulate your own bowels; and every woman may watch herself to know what kind of diet will do this; I have known deficiency of meat produce constipation, quite as often as deficiency of vegetables; baker's bread much oftener than either. Home-made brown bread will oftener cure it than any thing else.

What cruel mistakes are sometimes made by benevolent men and women, in matters of business, about which they can know nothing, and think they know a great deal.

The everyday management of a large ward, let alone of a hospital—the knowing what are the laws of life and death for men, and what the laws of health for wards—(and wards are healthy or unhealthy, mainly according to the knowledge or ignorance of the nurse)—are not these matters of sufficient importance and difficulty to require learning by experience and careful inquiry, just as much as any other art? They do not come by inspiration to the lady disappointed in love, nor to the poor workhouse drudge hard up for a livelihood.

And terrible is the injury which has followed to the sick from such wild notions!

In this respect, (and why is it so?) in Roman Catholic countries, both writers and workers are, in theory at least, far before ours. They would never think of such a beginning for a good working Superior or Sister of Charity. And many a Superior has refused to admit a *postulant* who appeared to have no better "vocation" or reasons for offering herself than these.

It is true we make "no vows." But is a "vow" necessary to convince us that the true spirit for learning any art, more especially an art of charity, aright, is not a disgust to every thing or something else? Do we really place the love of our kind (and of nursing, as one branch of it) so low as this? What would the Mere Angelique of Port Royal, what would our own Mrs. Fry have said to this?

*NOTE*.—I would earnestly ask my sisters to keep clear of both the jargons now current every-where (for they are equally jargons); of the jargon, namely, about the rights of women, which urges women to do all that men do, including the medical and other professions, merely because men do it, and without regard to whether this is the best that women can do; and of the jargon which urges women to do nothing that men do, merely because they are women, and should be "recalled to a sense of their duty as women," and because "this is women's work," and "that is men's," and "these are things

which women should not do," which is all assertion, and nothing more. Surely woman should bring the best she has, whatever that is, to the God's world, without attending to either of these cries. For what are both of them, the one just as much as the other, but listening to the people will say," to opinion, to the voices from without? And, as we have said, no one has ever done any thing great or useful, by listening to voices from without.

You do not want the effect of your good things to be, "How would a woman!" nor would you be deterred from good things by hearing "Yes, but she ought not to have done this, because it is not suitable for a woman." But you want to do the thing that is good, whether it is "for a woman" or not.

It does not make a thing good, that it is remarkable that a woman has been able to do it. Neither does it make a thing bad, which we have seen good had a man done it, that it has been done by a woman.

Oh, leave these jargons, and go your way straight to God's work with simplicity and singleness of heart.



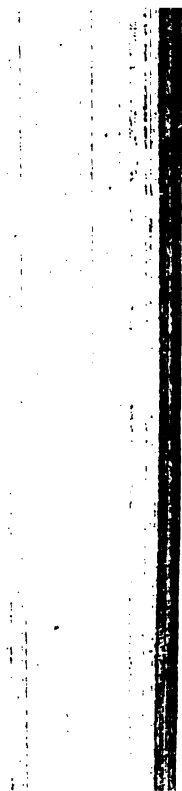
**VOLUME II.**

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**MIDWIFERY, DISEASES OF WOMEN**

**AND THE**

**CARE AND MANAGEMENT OF CHILDREN.**



## PREFACE.

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A DISCREET WOMAN IN DISCREET CIRCLES OF WOMEN  
AND THE WAY AND MANAGEMENT OF MARRIAGE, IS MUCH MORE  
NEEDFUL IN THE PRESENT TIME A DISCREET MARRIAGE. THE VIEW  
OF EVERY ONE MUST BE DIFFERENT CASES OF WOMEN IN RESPECTS  
TO THEIR OWN SYSTEMS, AND THE INFLUENCE OF TECHNOLOGY IN AN  
CHANGING-WORLD ARE VERY VARIOUS AND COMPLEX. WITH A LITTLE  
KNOWLEDGE AND KNOWLEDGE THE WOMEN CAN BE ENLIGHTENED.  
IT IS A WOMAN'S PRIVILEGE TO KNOW ALL ABOUT MARRIAGE AND  
ANY QUESTION IN WHICH SHE MAY BE INTERESTED, AND TO BE ABLE  
TO TAKE CARE OF HER OWN INTEREST, AND GIVE THE ASSISTANCE IN  
OTHER WOMEN'S SITUATIONS NECESSARY. IT IS AN INTELLIGENT  
MARRIAGE. A WOMAN'S MARRIAGE MARRIAGE HAS KEPT THE KNOW-  
LEDGE FROM OUR MARRIAGE WOMEN, AND THAT MARRIAGE IS  
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WOMEN IN THE SAME SPECIES OF MARRIAGE AS THAT WHICH  
MARRIAGE IN MARRIAGE A MARRIAGE AS MARRIAGE THE MARRIAGE  
THE MARRIAGE MARRIAGE MARRIAGE WITH HER, AND THE NEW MARRIAGE  
SHE WILL BE ABLE TO PERFORM IN MARRIAGE LIFE.

"To be sure that all things are pure," and it is the in-  
tent of the MARRIAGE TO PLAINLY DESCRIBE THE VARIOUS FAL-  
TERS OF THE FEMALE ESPECIALLY WITH REGARD TO REPRODU-  
CE IN WOMEN IF HE WAS INSTRUCTING A WIFE OR A DAUGHTER



They are subjects closely connected with our holies in life, belonging exclusively to the home family circle, and should be looked upon in the light that we regard any other useful knowledge.

Many a mother has lost her health by a want of knowledge of the subjects here described, and many women have become unfitted for mothers, or any useful purpose in life, by violations of nature's laws. As the health and vigor of our people depend upon the health and vigor of our mothers, should not use all proper means to diffuse a knowledge of natural laws, so that each may be able to live in accordance with them, and thus add to their own comfort and the being of those who are to succeed them?

If perchance this volume should fall into the hands of those who will read it to pander to a prurient imagination, the author begs that they will lay it to one side, give it to some person of their acquaintance who will make good use of it; and if the knowledge contained within it is turned to bad purpose, it will be contrary to the design of the author.

*98 West Sixth street, Cincinnati*

## WOMEN AND CHILDREN:

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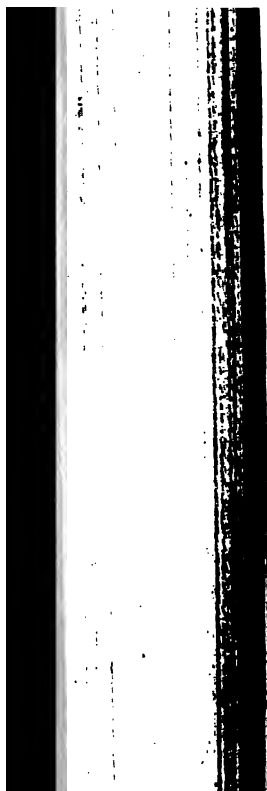
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# DOMESTIC MEDICINE.

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## VOLUME II.

### MIDWIFERY, DISEASES OF WOMEN, CARE AND MANAGEMENT OF CHILDREN.

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Perfect in her organization, woman is fitted for the two-fold office of a companion for man and the mother of children. Her perceptions are quick, emotions are strong, and sympathy and love are the most striking elements of her mind. Thus is she adapted to smooth the asperities of life, to call our better feelings into action and to give that love and care that are so necessary to the helpless young of the human species. Woman is the center of the home circle, and on her, to a considerable extent, depends the physical and mental well being of its members. Properly prepared for her duties, both physically and mentally, there can be no doubt but that she will enjoy more happiness in this her proper sphere than any other in which she could be placed.

For one, I am willing to admit *all* the rights that women are inclined to claim. There are some who cannot be contented with home duties and home pleasures, and such may properly be physicians, ministers, farmers, mechanics or whatever may suit their taste. Some women have mind enough for any purpose, and were their bodies as well adapted to their unnatural vocations as their minds, they could be well suited. A very large majority, however,



The differences between the male and female are marked: the one is coarse in his organization, the other delicate; the one large and angular, the other with rounded outline; in the one is the preponderance of strength, in the other beauty. The differences are as marked in the mind as in the body; whilst the man has better reasoning faculties, women's perception is quick and sensitive, and memory strong. These differences are developed after the development of the sexual organs; at birth we observe but very little difference.

#### **FEMALE ORGANS OF GENERATION**

The organs of generation in the female consist of the sexual opening or *vulva*, of a canal leading from it—the *vagina*, of the uterus, and the ovaries. Associated with these are the glands of the urethra, its excretory duct, the urethra.

The external parts are supplied with glands, that furnish a material for the formation of mucus. If allowed to accumulate, it not unfrequently causes irritation and a very unpleasant smell, with subsequent internal weakness. In some cases castile soap and water is used for a cure, and especially as a preventive. *Pruritus*, or itching of these parts,

FIG. 1.

*A Side View of the Viscera of the Female Pelvis.*

1. The symphysis pubis; to the upper part of which the tendon of the rectus muscle is attached. 2. The abdominal parietes. 3. The collection of fat forming the prominence of the mons veneris. 4. The urinary bladder. 5. The entrance of the left ureter. 6. The canal of the urethra, converted into a mere fissure by the contraction of its walls. 7. The meatus urinarius. 8. The clitoris, with its præputium, divided through the middle. 9. The left nymphæ. 10. The left labium majus. 11. The meatus of the vagina, narrowed by the contraction of its sphincter. 12. 22. The canal of the vagina upon which the transverse rugæ are apparent. 13. The thick wall of separation between the base of the bladder and the vagina. 14. The wall of separation between the base of the bladder and the vagina. 15. The perineum. 16. The os uteri. 17. Its cervix. 18. The fundus uteri. The cavitas uteri is seen along the center of the organ. 19. The rectum, showing the disposition of its mucous membrane. 20. The anus. 21. The upper part of the rectum invested by the peritoneum. 23. The utero-vesical fold of peritoneum. The recto-uterine fold is seen between the rectum and the posterior wall of the vagina. 24. The reflection of the peritoneum, from the apex of the bladder upon the urachus to the internal surface of the abdominal parietes. 25. The last lumbar vertebra. 26. The sacrum. 27. The coccyx.

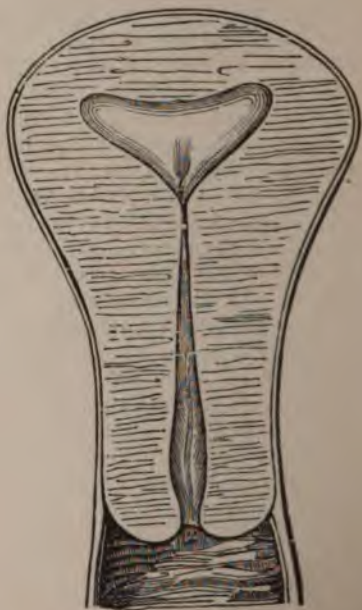
The VAGINA is the canal that leads upward to the womb and gives it support. It is formed of fibrous tissue, lined by a mucous membrane, its walls being about the one-eighth of an inch in thickness. They are so elastic as to permit of distension to the full size of the pelvis without

danger of rupture. Its posterior wall is closely con- with the lower bowel or *rectum*, and its anterior more closely attached to the bladder, and has the *passage* or urethra excavated within it. See Fig. its normal condition, the walls of this canal are fi elastic; when they become relaxed, there is displacement of the womb and unpleasant sensatio

Its mucous membrane is very vascular, and abu supplied with nerves and mucous follicles. Heno diseased, the general system sympathizes with considerable degree, and there is frequently a discharge of mucus.

THE UTERUS.—The uterus or womb is situated upper extremity of the vagina, upon which it re between the bladder in front, and the rectum be

FIG. 2.



*The Cavities of the Uterus and Cervix in their Normal*



in Fig. 1. In its natural condition, it is pear-shaped; about three inches in its longest diameter, two inches wide, and one and a half inches thick. It is divided into a neck, body, and fundus; the first being the constricted portion; the second, the middle portion; the third, the superior portion. It contains a small cavity, as seen in Fig. 2, which is divided into two parts, the cavity of the body and the cavity of the neck. This cavity is lined by mucous membrane, which is smooth in the body, and laid in folds in the cavity of the neck; the latter is profusely supplied with mucous glands, which furnish a secretion to seal up the womb during pregnancy, and when diseased, an abundant, white-looking discharge.

The walls of the uterus are thick, and as will be seen in Fig. 3, are composed of three coats. The external

FIG. 3.



*The Tissues of the Uterus.*

*p* muscular tissue; *m* the internal lining or mucous membrane; *t* a tubular gland

one is thin and delicate, and is derived from the serous membrane of the abdomen. The middle one is thick and composed of muscular fibre; it is dense and hard in the unimpregnated womb, but during *gestation* it increases in thickness and the muscular fibres are remarkably developed, so that at the commencement of labor it is one of the most powerful muscles of the body, and is capable of forcing the child through the pelvis and the structures below. The mucous membrane of the cavity is formed of tubular glands as seen at *o t* which are supposed to furnish the menstrual discharge.

FIG. 4.

*The Vessels of the Uterus.*

The womb is abundantly supplied with blood-vessels as seen in Fig. 4, representing the organ during gestation. Owing to this profuse supply of blood, we can readily understand the serious injury that may result to the general system from a derangement of its circulation or arrest of the monthly periods or other causes.

The uterus and ovaries likewise receive a very abundant supply of nerves (See Fig. 5), derived from the sympathetic system of nerves, and associate it with the digestive and assimilative organs. This is necessary for the growth and development of the child in the womb.

FIG. 5.

*The Nerves of the Uterus.*

and accounts for the morning-sickness and other derangements of the stomach during pregnancy, and for the diseased condition of the stomach and other digestive organs in chronic diseases of the womb. The second are derived from the cerebro-spinal system of nerves, and it is thus closely connected with the nerves of sensation and the mind; hence the *hysterical* manifestations that so frequently flow from functional or structural disease of these organs.

**FALLOPIAN TUBES.**—Passing from the upper part of the uterus on either side are two small tubes, four or five inches in length, which go to the ovaries. The canal through them is very small, but sufficient for the passage of the human egg from the ovaries to the uterus. Their outer extremity is expanded (See Fig. 6), and furnished with erectile fingers to grasp the ovary during ovulation, and thus prevent the escape of the egg into the cavity of the abdomen.



FIG. 6.

*The Uterus, Ovaries, Fallopian Tubes and Lateral Ligaments.*

**OVARIES.**—The ovaries are two whitish flattened bodies about the shape and size of an *almond* with its shell. They have a strong external fibrous investment, but internally spongy vascular tissue in which the human egg is generated. Upon the external surface from ten to thirty vesicles may be seen filled with a transparent, coagulable fluid; these are called *graffian* vesicles, and contain the egg. One of them comes to maturity at each monthly period, and rupturing, discharges its contents into the fallopian tube, whence it is conveyed into the uterus. Thus these small organs furnish the germ for a future being, at each menstrual period.

**BLADDER.**—The bladder in the female, as will be seen by Fig. 1, is situated immediately in front of the uterus and vagina. It does not differ from that in the male except that it is usually larger. Its situation is such, however, that if allowed to become unduly distended, it will throw the womb out of place, and sometimes give rise to serious difficulty.

**THE URETHRA.**—In the female, is short, about two inches in length, and included in the anterior wall of the vagina. Its external opening will be found immediately under the bones of the anterior part of the pelvis, and is usually marked by a small, cushion-like elevation.

MUSCLES OF THE PELVIS.—The muscles of the pelvis are arranged as to give efficient support to the organs here described, and to firmly close the outlet of the pelvis. A pair arise far within the pelvis and pass downward, being broad, they form a muscular basin. Others pass before backward, and from side to side. As long as the muscles retain their normal tonicity there can be but no displacement of internal organs, and when such occurs the best means of treatment is to restore their original strength.

In addition to this the uterus has four ligaments; two called broad, and consist of the serous membrane reflected from it to the sides of the pelvis, as seen in figure 7. These are called round, and pass upward and outward to be inserted above the external genitals. These ligaments were formerly regarded as the structures that sustained the womb in its proper position, but it is now entirely determined that they have but little to do with it.

FIG. 7.

*Bones of the Pelvis.*

of cities, and later in the inhabitants of cold climates in the country.

Its first appearance is indicated by the full development of the system, and in many cases by the monthly recurrence of pain in the back and limbs, and a feeling of weight in the pelvis. These symptoms may occur at regular periods for several months, and should be regarded by the mother as an indication that the discharge should appear. At such times let the feet be bathed in warm mustard and water, at bed-time, and give a cup of pennyroyal tea. If there is much sensation of fullness, use the warm hip bath. The young girl should be fully instructed by her mother preparatory to this change, and cautioned against over exertion and exposure at such times. There is no doubt but this is one of the most important periods of her life, and if this change occurs in good health may be anticipated; but if arrested or prevented from coming on, by imprudence, the system may become deranged for life. Especially should care be used during the first years of menstruation to prevent arrest of the discharge, by avoiding exposure, sitting on the damp ground, or stones, getting the feet wet, etc.

Menstruation continues regular, except the period of gestation and nursing, up to the fortieth or fiftieth year. This period is termed the *change of life*, and is looked forward to with considerable dread by most women. In the majority of cases the discharge is irregular for one or two years before it ceases, sometimes small in quantity, at others profuse, recurring too frequently, and again ceasing on at longer intervals. Though some women suffer severely at these times, and a few do not pass through the change, a majority have comparatively slight trouble, and are often-times healthier afterward than before.

CAUSES OF MENSTRUATION.—The discharge of blood at the menstrual period is but a symptom of changes going on in the internal organs. Every twenty-eight or thirty days the ovaries mature a graafian vesicle, which



a human egg. This causes an excitation of the system, which also extends to the uterus, and in consequence of this there is an increased circulation of blood, which passes off to some extent from the cavity of the uterus. Menstruation does not commence until the ovary is sufficiently matured to furnish ovules, and it ceases whenever these cease to be developed, as during pregnancy, disease of the uterus and ovaries, and at the end of life. The monthly discharge may be taken as a sign of the maturity of the sexual organs, and a caution for child bearing.

### CONCEPTION.

Conception is the fertilization of the egg furnished by the female, with the seminal fluid furnished by the male, and the retention of the fecundated body within the uterus. As a general rule, the egg is furnished by the female about the period of menstruation, and it escapes from the uterus between the eighth and twelfth day after its liberation from the ovary. Therefore impregnation occurs almost universally at the menstrual period, or within eight days after its cessation. Thus when it is not deemed desirable to have children, connexion should not take place for twelve or fifteen days from the commencement of menstruation.

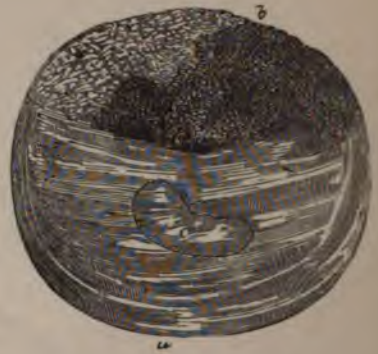
The egg having been vivified by contact with the male, it is retained within the cavity of the uterus, by the formation of a false membrane, called the *decidua*. In six weeks it forms an attachment to the uterine wall by the development of the *placenta*, or after-birth, from this time onward it derives its sustenance from the blood of the mother. From the commencement of its development, the child is surrounded by its membranes, which contain a considerable quantity of water in which it floats, as in figure 9, of a fetus and its membranes at the fourth week.

At the fourth week the embryo has the form of a pentagon, about half an inch in length, its head being indicated by a slight swelling, and its eyes by two black dots. The arms and legs appear as nipple-like protrusions. The liver and bladder occupy nearly the whole abdomen.

At two months it is about one and a half inches in length, the extremities are developed so as to show fingers and toes, there are rudiments of the nose and mouth, and the umbilical cord and placenta have been developed.

At three months it is from two to two and a half inches in length.

FIG. 9.



*Ovum at Two Months.*

At four months it is five or six inches in length, and weighs from one to one and a half pounds. The head is very large, the eyelids are developed, and ossification has commenced in the bones.

At four months, it is five or six inches in length, the skin well marked and rosy, the mouth large and open, the nails begin to appear, and the sex can be determined.

At six months it weighs in the neighborhood of one pound, and is from nine to ten inches in length, the skin purplish red, and hair white or silvery.

At seven months its weight is from three to four pounds, and its length from thirteen to fourteen inches.

At eight months the skin is natural and rosy, but the nails do not yet reach the extremities of the fingers.

he ninth month its length is from seventeen to one inches, and its weight from five to nine pounds, as perfect in every respect.

ild is capable of respiration between the fifth and months, and may cry when born, but it is not capable of maintaining a separate existence before the seventh

It is a common impression that a seven months more likely to live than one at eight months, and that experience goes to prove it.

### ***PREVENTION OF CONCEPTION.***

There are many women who have their health permanently impaired, their happiness destroyed, and sink into premature grave, from too frequent child-bearing. To any means which would prevent conception, would be an inestimable blessing. There are others, who do not wish to have an increase in family, because it increases labors and cares, and confines them to the house; they think, preventing that enjoyment of life that is the privilege. Others, again, desire some means of abortion, that they may gratify their desires in an unmannerly manner; to these, any such means will prove a blessing rather than a blessing.

We well understand why women should be so desirous to prevent pregnancy. The lot of most mothers is no means easy, and, in many cases, their lives are long and burthened with cares. A large family is a great task on the physical powers in child-bearing, and the continued care that is necessary in their nursing, attention to food, clothing, government and education, the severest labor that any person could undertake. Providence has mercifully adapted the back to the burden, and given strength of body and mind to properly bear our lot in life. It is no offense, however, to good sense, to use such means as will not interfere with duty, although, to prevent the having of more children than



It may be said, that nature furnishes in the non-intercourse of the sexes without advantage to the mother. placed in a position to have much appetite being so strong as to overcome considerations.

As before remarked, the menstruation of the maturity of the human female of impregnation at any period before the womb, a period of ten or twelve fluid of the male may retain its vitality in the organs for two or three days. Hence the general law, that conception takes place two or three days prior to, during, or after the cessation of menstruation. It is therefore desirable to avoid having children, and to take place at this time. Though in the majority of cases, there are some exceptions, an egg is produced in the intermediate excitement.

As conception results from the combination of the fluid of the male with the egg of the female, that will prevent this, will prevent conception. For this purpose the French have devised a series of pills.

render it more certain, an injection of one part of vinegar to eight of water may be employed. The injection alone, using the rubber pump syringe freely, will often answer the purpose without any other means, employed immediately after the act. These things are some trouble, but are only named for the prevention of a far greater one.

The means above named are the only ones known, though, to read the advertisements in the public prints, it would be supposed that they were very numerous, and easy of use. I describe them, because I believe I will be conferring a lasting benefit on many overburthened mothers, though another class may use them wrongfully. It may seem that such matters should not be spoken of, but my experience tells me that nine out of every ten women, have a great anxiety on this subject, and will be glad to learn what I have written.

#### **ON THE PROCREATION OF MALE AND FEMALE CHILDREN AT WILL.**

This subject, novel as it may appear to some, has been for many centuries past, an object of meditation and study; and extensive experiments have been made for a great number of years in several of the European States, to hasten its progress; and foremost among these we find England, France, and Belgium. Those experiments, at first made for the advancement of science only, have, of late years, become objects of speculation, and the knowledge of their results of very great value to the raisers of fine horses and cattle. We could not in so short a paper as this, give the full history of those experiments; a simple glance at the main points, being, we deem it, sufficient to derive the necessary conclusions for the design of our theme. The governments of the States just mentioned, have instituted establishments for the purpose of raising and improving horses, cattle and other animals, and men of science have deduced from close observations, and re-

sults carefully recorded for many years, the following facts:

1st. That the young obtained from a mare, or sheep, etc., when very young, was generally a male, the male employed was of mature age, healthy and strong.

2nd. When the female is of mature age, strong, healthy and well fed, the young is more commonly female; when the male employed is young, weak or exhausted by often repeated copulation.

3d. That the young obtained from the same female, when of mature age, strong, healthy and well fed, was in equal proportion, when the male employed was in a similar condition.

4th. That the young brought forth, when the female is old, are generally males, when the male employed is young and strong.

5th. That the young obtained from females, when in prime, being well fed and young, were generally females, when the male was not in prime, or when ill fed, or exhausted by frequent copulation, or too old.

6th. That the young obtained from the same female, when well fed and not in prime, were generally males, when the male was well fed, young, healthy, strong and in full vigor.

7th. That if the female was exhausted by labor, or by exertion, the young would be generally male, should the male employed be kept in and well fed.

8th. That the young would be female, should the male be kept at rest, and the male exhausted by labor or forced exertion.

9th. To conclude—that the offspring would more generally be male, or female, according to their respective physical and procreative abilities (age being taken into consideration).

From the preceding statements we derive the following deductions: Man being an animal, having physical procreative faculties, analogous to those of the brute set of phenomena take place among these, the same



arily be produced in the human species, and if conditions of the physical body affect the offspring, the physical conditions must affect the offspring in

get a male child, the husband should take good substantial, and somewhat stimulating food, moderate exercise his time pleasantly in the gay society of women, lascivious novels, refrain from sexual pleasures for a previous to the procreative connection with his wife. At the same time, the wife should live sparingly, partly on vegetables, fatigue herself every day, take antiaphrodisiacs, and pass her time in the dry society of women.

have female children, the opposite should be observed, the woman should live in the abundance of all things, in the ball-room, etc., but should restrain her mind and preserve its whole force for the desired time; the male or husband, on the contrary, should reduce his mental abilities by actual labor, and at the same time, suppress his procreative propensities by frequent, copious ejaculations.—*John E. Van Molle, A. M.*

### **SIGNS OF PREGNANCY.**

is not always possible for a physician to determine the existence of pregnancy before the fifth month, but there are certain signs which, as a general rule, are reliable.

These are divided by writers on obstetrics into rational and sensible, the first being perceptible to the female herself, the second being determined by an examination.

*1st of Menstruation* is one of the most common signs of pregnancy, as in a very large majority of cases the menses cease when conception takes place. It is not certain, however, for this discharge may be arrested by cold, occasionally from other causes, and in some rare cases continues for three or four periods after conception.

takes place. As a general rule, if the arrest depends upon cold, there will be evidence of disease, as pain in the back and limbs, weight in the pelvis, with sometimes slight fever, all the symptoms recurring monthly.

*Morning Sickness* is a common symptom of pregnancy though it does not occur in all cases. It may be but a slight nausea in the early part of the day, or it may be so severe as to cause vomiting of the food taken, and in some cases will prove dangerous.

A *dark ring* surrounding the nipples, with enlargement of the follicles, is a pretty certain sign in first pregnancy but at succeeding times it is of little value. Enlargement of the breasts about the third or fourth month, is an additional evidence.

*Discoloration of the face*, in the form of freckles, is, in some cases, very good evidence, when taken in connection with the preceding.

*Enlargement of the abdomen* commences about the fourth month, and is usually regarded by women as indicating pregnancy. Though frequently the case, yet there are numerous instances in which the abdomen is enlarged from other causes, so that it would not be possible, by passing the hand over it, to determine what was the cause. Many an innocent female has suffered from the suspicion of her neighbors and friends, when the enlargement was dependent upon ovarian or other disease.

*Quickening* usually occurs at the middle of gestation about four and a half months, though in some cases it is not perceived before the fifth, or even the sixth month. It is dependent upon the movements of the child in the womb, and is sometimes very marked, at others very indistinct. Women regard it as a positive evidence of pregnancy, so it is in a large majority of persons; some rare cases have been observed in which the female was positively deceived by her own mind that she felt the movements of a child, when time proved that she was not pregnant. If the hand be dipped in cold water, and applied suddenly over

ing, it will almost always elicit movements of the child in the later months.

Physicians frequently determine the existence of pregnancy in the latter months of gestation, by applying the hand to the abdomen to hear the beating of the child's heart. Of course it is positive evidence. It is also employed during labor, to determine whether the child is alive, and is a very important measure in some cases.

An examination of the uterus, through the vagina, gives important evidence of pregnancy. Month by month we find that the neck of the womb becomes softer, and its os more open, so as to admit the finger. In addition, when the womb be struck by the finger the child will rise up in the water that surrounds it, and, falling, will give a sudden impulse to the finger. This is termed *ballotement*, and is a positive evidence of pregnancy.

Taking these as signs of pregnancy, we may conclude that in a large majority of cases, if a woman has arrest of her monthly periods, morning sickness, discoloration of the nipples, enlarged abdomen, and quickening, if a majority of these symptoms, she may safely make up her mind that she is pregnant.

### *DISEASES OF PREGNANCY.*

Pregnancy is a physiological, or healthy condition, and, as a general rule, women enjoy as good health during this period as at other times. It is true, that in some cases morbid sympathies are excited, which prove very unpleasant, and sometimes they can not be avoided.

When pregnancy is suspected, the female should adopt regular habits of living, and even thinking, both for her own good and the good of her offspring. The diet should be nutritious, but not stimulating, and such articles of food as are craved, should be taken in moderate quantities, if not absolutely injurious. The feet should be well protected from dampness, and the entire lower part of the



body from the action of cold. Moderate exercise should be taken, but excessive exertion and fatigue should be avoided. A daily or tri-weekly sponge bath will be of much importance to women of a delicate and lax habit, as it improves the circulation, increases nutrition, and gives tone to the system. Labor will be less painful and shorter, in a majority of cases, if such a course as this be pursued.

A well regulated mind not only adds to a woman's happiness, but is of very great importance to the well being of the child. There is no doubt but that the state of the mother's mind exerts a very strong influence upon the mind of the child. Instances of this are so numerous that any person must have observed it; if the mother's mind is harassed, and she is irritable and fretful, the child will be cross, and the future man or woman will always feel the influence to a greater or less extent. It is true that in many cases it is almost impossible for a wife to be even-tempered, as she has so much to irritate and annoy her, but perseverance in this, as in other things, will work wonders.

We hear much said about *mothers' marks*; and almost every old lady has her story to tell of some surprising circumstance of this kind. It is no doubt true, that in some cases the influence of the mother's mind is manifested in some physical change in the child. Sufficient evidence is before us to make us admit this fact, and when one child is marked from such cause, ten thousand more may escape. In a very large obstetric practice, not a single instance has come under my observation, though I have been asked the question a hundred times, with fear and trembling, "Is the child all right?" the mother's face having been excited from some occurrence during pregnancy.

The bowels should be kept regular during gestation, and this is best effected by strict attention to regular periods for their evacuation, only resorting to mild

sion of the Neutralizing Physic may be employed. It is best to avoid the use of alkalies if possible.

*Headache* sometimes proves very distressing; recurring from day to day, and being so severe as almost to drive the woman crazy. In some cases it depends upon torpor of the bowels, and a mild cathartic, and subsequent attention to keep the bowels regular, will cure it. At other times, a solution of acetate of potash as above recommended will speedily relieve the patient from suffering. If very persistent, a physician should be consulted.

*Toothache* occurs so frequently in pregnancy, that some it has been considered a valuable evidence of the condition. As there is some danger of miscarriage from having a tooth pulled, it is best to check the pain by other means if possible: the remedies recommended in Vol. I will frequently be found sufficient. If they fail, and the pain is severe and persistent, have the tooth removed.

*Unpleasant sensations in the pelvis* are of frequent occurrence in the earlier months of pregnancy; as of weight bearing down, frequent desire to pass water or evacuate the bowels, burning on passing water, etc. These usually pass away by the fourth or fifth month, and unless severe, do not require medicine. Attention should be especially paid to keeping the bowels regular, which will obviate much of the difficulty. When I prescribe these affections, it is of macrotys and pulsatilla, twelve drops to the half glass of water, a teaspoonful every three hours.

In the latter months of gestation, there is sometimes a very unpleasant sensation of weight and feeling as if the lower parts would give way, which depends upon the weight of the womb, and loss of power in the muscles of the abdomen. In these cases, have a bandage nicely adjusted to the lower part of the body, draw it comfortably tight, and suspend it from the shoulders with a pair of men's elastic suspenders: it will in many cases

all the trouble, and the person will feel an agree-  
 eness of lightness and comfort.

Under no circumstances should the skirts be suspended  
 at the hips, as is frequently the case. The pressure  
 made causes the womb to sink lower in the pelvis,  
 many times gives rise to the unpleasant sensations  
 named. Let all the clothing be loose, especially  
 as fasten around the waist, and suspend the skirts  
 from the shoulders.

Corsets and tight lacing are always objectionable, but  
 it should be entirely avoided from the very first.  
 No sane person should wish to bandage the chest,  
 prevent free inspiration, is more than I can account  
 as it would be to me a continued night-mare. If  
 one will wear them at other times, let them be dis-  
 carded during pregnancy, if they value their own  
 health, or care for the well being of the child.

*Tension and pain in the breasts* is sometimes very an-  
 noying, especially in first pregnancies. In these cases  
 have the clothing loose, and bathe the breasts with one  
 of tincture of arnica to three parts of water, or if  
 one cannot be obtained, use spirits of camphor and  
 in the same proportion.

*Irritating itching* of the vulva sometimes occurs dur-  
 ing pregnancy, and is very annoying. It may usually  
 be relieved by a wash of morphia, five grains; borax, one  
 grain; water, eight ounces. Or, take half a pound of  
 oil and pour on it one quart of water; stir it, and let it  
 stand for two days, when the water may be used as a

*Swellings* of the lower extremities are sometimes annoy-  
 ing, and in some cases very severe and persistent. They  
 result upon the pressure of the enlarged womb, some-  
 times upon constipation. They are relieved by keeping  
 the bowels regular, and by supporting the womb as here-  
 named.

*Swelling of the feet and limbs* sometimes occurs, and re-



sults frequently from the same cause, though at other times from the causes that generally give rise to dropsy. The woman should be on her feet as little as possible, keep her bowels regular, and the womb supported. If this is not sufficient, a physician had better be consulted.

*Displacements* of the womb during pregnancy are not a frequent occurrence, but when they do happen, give rise to serious symptoms. Previous to the third month the womb sinks lower in the pelvic cavity than usual, sometimes gives rise to unpleasant symptoms. The patient may rest assured, however, that by the fourth month this will cease. When the falling of the womb is prevented, and in cases of *retroversion* and *anteversion*, a physician must be consulted. The last two occur suddenly, and should never be neglected.

#### ABORTION.

As before remarked, the child does not become capable of an independent existence before the seventh month, and if labor comes on and it is discharged before this time it is called an *abortion*. If labor comes on between the seventh and the end of the ninth month, it is called *miscarriage*, or premature delivery.

Abortion may be *spontaneous*, *accidental*, or *designed*. In the first case it is dependent upon some disease or weakness of the generative organs, or of the entire system, and many times there is such tendency to abortion, that it is very difficult for the female to carry the child to its full term. The accidental causes are falls, blows, over-exertion, lifting heavy weights, and great mental excitement, as fear, joy, grief, etc. Drastic cathartics will sometimes cause it, as will emetics, or the extraction of a tooth, or any thing that gives a severe shock to the system. Abortion is sometimes produced by criminal means, either medicinal or instrumental, and the woman placed in great danger.

The *symptoms* of an abortion are, usually, first, a feeling of debility and sinking, and a bloody discharge from the vagina. There is pain or aching in the back, sometimes pains in the limbs, and a feeling of weight in the pelvis. The discharge of blood continuing to increase, labor pains come on, at first slowly and weak, but growing stronger and more frequent, until the child and afterbirth are expelled. In some cases an abortion proceeds with great rapidity, one or two hours being sufficient, but in other cases the pain and hemorrhage continue for twelve, twenty-four, or more hours, before the contents of the womb are expelled.

Up to the third, and sometimes as late as the fourth or fifth month, the ovum is expelled entire; that is, the membranes are not ruptured, and the child, afterbirth and bag of waters come together without being broken. After this time, the pains continuing for a time, the bag of waters break, and this fluid is discharged, then the child is expelled, and, finally, after considerable time, the afterbirth passes. Frequently the discharge of blood is profuse, especially after the expulsion of the child, and before the passage of the afterbirth, in some cases proving fatal in a very short time.

MANAGEMENT OF AN ABORTION.—As soon as a woman feels the first symptoms above described, she should immediately lie down and keep perfectly quiet. Have some friend prepare a good sized mustard plaster, and apply to the small of the back, and take internally half a teaspoonful of viburnum, or from five to ten grains of diaphoretic powder, No. 20. In many cases this will be sufficient to arrest it, when the female should keep in bed for at least one day, and for several days should be very cautious to avoid over-exertion or active exercise.

If the pains and discharge of blood continue to increase after the treatment named, it should be discontinued, as an abortion will result. In most cases a physician or competent midwife will be sent for. Let the woman keep quiet, and if there is much hemorrhage or flooding, give

still continue, apply cloths wrung out of the lower part of the bowels and vulva.

When the pains become severe, let an examination be made by passing the fore-finger into the vagina. If the waters have not been discharged, do not to rupture the membranes; if they may be found entirely or partly with the finger, the finger may be hooked around them and drawn out.

The greatest danger is from retention of the placenta. If there is but little flooding, there is no danger. If, however, the discharge of blood is considerable, the finger to the mouth of the womb, as above, and situate so that the finger can be withdrawn. Give the remedies named above, and use the cold as directed. If dangerous, and these means fail of effect, a woman has not passed the fifth month, wrap her with a silk handkerchief, or any soft cloth, and bandage around the abdomen, with a bandage, and get a physician as soon as possible.

Never be alarmed at these times, as they are the patient's danger. Act coolly and deliberately. It is very rarely any danger if the above directions are followed.



unborn child, and not unfrequently apply to the physician for means to cause its death and expulsion, as they do for a medicine to relieve pain. The laws of God and man make abortion criminal; it is murder at any stage of pregnancy, and nothing else can be made out of it. The life of the unborn child is as precious as it would be if one year old, and its destruction involves the guilt. Any man or woman who intentionally procures abortion, is guilty of a high crime, punishable in the United States with imprisonment in the penitentiary.

Most women suppose that there are medicines which produce abortion, in the same manner that a dose of castor oil will cause evacuation of the bowels, and if the physician would but tell them what it was, they need not have a child if they did not wish it. This is a very great mistake, as there are but very few medicines that accomplish it in any case, and none in a majority of cases. The agents are all harsh and drastic, and endanger the female's life before a single pain is induced. Physicians induce abortion, only when for some cause it is impossible for the female to bear a living child, or her life is endangered by some disease that is dependant upon pregnancy. So careful are they, that even in these cases, they always have a consultation if it can be obtained. In all cases instrumental interference is employed, and no violent medicines are ever used.

### LABOR.

*Gestation, or pregnancy*, continues for ten lunar months, or nine calendar months and a week, being about two hundred and eighty days. It may vary from this six weeks, or more days, anticipating the time by this much, or extending over it even to three hundred days. Females count their time from the last menstruation, or from the sickness, and expect labor at its tenth recur-

of the uterus, which is now highly d  
ful, aided by the action of the abdo  
contraction of the uterine muscles  
*pains* is synonymous with uterine  
child is said to be expelled by *the pa*

*Labor pains* vary greatly in chara  
tion, and intensity. At first they ar  
are not frequent, continue but a short  
annoying, they are not hard. As  
become more frequent, continue lo  
in the last stage, recur every few mi  
are very severe and expulsive.

STAGES OF LABOR.—Labor is divid  
The first is the period from the com  
the full dilation of the neck of the  
of the waters. It occupies a vari  
sometimes but a few hours, at othe  
days. Though it may continue long  
very annoying, yet, as a general rule  
danger before the discharge of the  
stage is the period between the dilati  
womb and the complete expulsio  
though of variable duration, is on t  
to four hours. The third stage is th

ortable than she has for weeks. So marked is she is not unfrequently tempted to assist, or do would not have thought of a short time before. On to this, there is a whitish discharge a short ore labor commences, or at its commencement; med the *show*.

rst stage of labor commences with occasional mmencing in the back and passing round the the front, and down to the groins. They are de-y the woman as *cutting* or *grinding*, and she some-fers as much from them as from the more severe he second stage. As time passes, the pains be-re severe, last longer, and recur more frequently. Index finger is now introduced into the vagina to b, its mouth will be found to dilate or grow larger ains progress, and a smooth, round, fluctuating the opening: this is the bag of waters. When is on, this will be found pressed down and tense, the pain is off, it will be relaxed and flabby. In ice of pain, if the finger is pressed up through h of the womb, the hard, round head of the child elt.

a variable time, usually from eight to sixteen e pains having become as frequent as every five and quite hard, the mouth of the womb will be ated, and the head of the child passing through ie membranes rupture, and the waters are dis-

This terminates the first stage of labor.

he commencement of the *second stage* the pains heir character and become *bearing down*. As es they become more frequent and severe, and the ishes something to press her feet against, and to vith her hands in order to aid the pains. She complain much more than in the preceding stage, hen a very hard pain occurs she is forced to cry ese pains gradually force the head of the child d in the pelvic cavity, and at length it may be



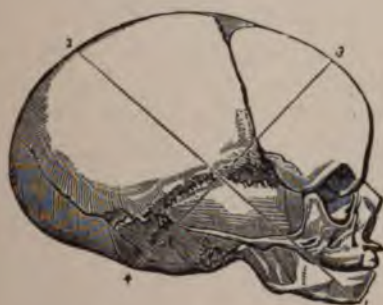
sufficient to expel the body of the stage of labor is completed.

After the expulsion of the child, from ten to thirty minutes, elapses pain. Pains then come on, and us three, the afterbirth is forced from vagina, from whence it is discharged efforts of the female, assisted by the cases its expulsion immediately follows others its separation is slow and several hours, unless facilitated by the midwife. This terminates the third labor.

During the first stage, there is increased all the soft parts, and they are observed and become soft. In the second stage are increased, and the parts are so as greatly to facilitate the passage of the expulsion of the child there is a discharge of blood, which usually placenta or afterbirth is being detached continues under the name of *lochia* some cases the mother will feel the completion of the labor, though the

chin a reasonable period of time. Three other varieties of labor are described, *preternatural*, *difficult*, and *complicated*. In the first, some other part of the child but the head, presents, and in the second the labor is greatly obstructed, and in the third it is complicated by some occurrence that renders it dangerous, as hemorrhage, etc. The natural position of the child in the womb, is a state of flexion—the chin on the breast, the arms to the sides, the thighs flexed on the abdomen, and the legs on the thighs. In this position it forms an ovoid body, the vertex, or upper part of the head, being the most dependent part. The child's head is much the largest part of the body, so that where it will pass, the body will pass easily. If we examine the head of a child, we will find the least diameter to be transverse, from ear to ear, and the next shortest is its opposite, from the neck to the upper portion of the forehead, as marked by the line from

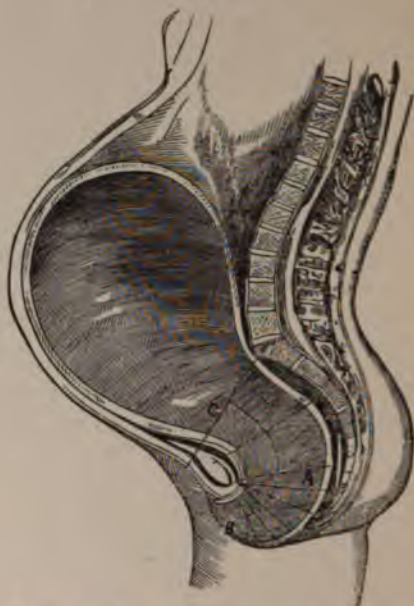
FIG. 10.

*Head of the Child.*

to 4, in Fig. 10. These diameters, which give the exact size of the head as it passes through the pelvis, measure three and three-fourths inches. The child's head then presents the part marked by 2, and the long diameter of the head, from 1 to 2, is in the line of its body. If the head was not flexed, this would present to the pelvis, and,

being five and one-half inches in length, of course labor would be arrested.

FIG. 11.



*Cavity of the Uterus and Vagina at the period of Labor.*

Fig. 11 represents a section of the female body showing the cavity of the uterus, and the parturient canal down to its full extent. It will be seen from this that the uterus, acting upon the child, will force its head downward to A, when it will be resisted by the sacrum. To make further progress, it will be thrown forward in the direction of the curved line from C to B.

As the vertex goes first, and is thus thrown forward under the pubic arch, the chin will leave the breast as seen in Fig. 12. As it continues its passage, it will be thrown still further forward, as marked by the dotted lines in the same cut, Fig. 12. No matter what the position of the head may be, and obstetricians recognize



the occiput, or back part of the head, will be brought to the pubic arch in a large majority of cases. By referring to the cut of the child's head, and comparing it with Fig. 12, it will be seen that this must be so, for some part of the head must escape from the pelvis, in order to permit this flexion, which brings the long diameter of the head to correspond with the pelvis.

FIG. 12.

*Positions of the Head during Labor.*

The child's head having thus passed through the bony canal, the body is expelled in the same line, and being smaller and more flexible, this is accomplished without difficulty.

The position of the child's head is determined by the sinuses in it. If the head of a newly born child be examined, a large square opening will be found in the bones at the anterior part of the head; this is called the *anterior fontanelle*. Passing backward from this, in the center of the head, the line of junction between the two *parietal* bones can be readily felt, and is called the *sagittal suture*. At the posterior extremity of this, is another

small triangular opening, called the *posterior fontan*. Passing from this laterally, are two sutures, marking articulation of the *occipital* with the two parietal bone

If, now, in making an examination, the finger come in contact with the small triangular opening, we are certain that the vertex presents. In some cases this opening is closed, but even in these cases the three lines of suture coming together are readily felt, and the occipital bone is pressed under the edges of the parietal during a pain, and thus becomes very prominent. The direction of the suture gives us the position of the head in the pelvis.

It is not necessary to recognize but two positions, the occipito-anterior, and an occipito-posterior. In the first case, the triangular opening will be to the front, either the left or right side; in the second, it will be to the posterior part of the pelvis, and to the right or left. Labor is more difficult in occipito-posterior presentation because the head has to rotate the entire distance from the posterior to the anterior part of the pelvis.

#### MANAGEMENT OF LABOR.

The mother will have every thing prepared and placed in its proper place preparatory to her confinement, leaving nothing undone that may be required at such time. A binder, or bandage, may be fitted to the body and laced, but I prefer a single thickness of drilling or stout muslin about eight or ten inches wide, and hemmed. Some insert a piece of whalebone in it, to prevent its wrinkling up. The mother should be prepared to receive the discharges, and two or three old quilts or comforts to protect the bed. For the child, in addition to its proper clothing, two pieces of stout string, about the size of dress cord, should be ready to tie the *umbilical cord*, or navel string, and a piece of soft linen to dress it. Lard, soap, water and towels should be placed where they can be readily procured.

When the pains come on so as to show that labor

enced, have the quilts spread on the bed, so that the next the female may be readily withdrawn after the birth of the child to remove the discharges, and thus leave the person dry and comfortable. It is not necessary that she should go to bed as yet, but the physician may be desired. If none is to be in attendance, have the female lie down, and make an examination to determine how open the mouth of the womb is, and, in the absence of contractions, whether the evenly rounded, hard head of the child presents. If it does, there is no danger, but the child will be born in due time, and without assistance.

It is best for the lady to walk about the room, as it is the time less irksome, and is thought to increase the strength. When the pains become frequent and attended with a desire to lie down, let her remove her clothing and get into bed. It is best to have her under clothing drawn up as to protect them from the discharges, which obviates hanging the clothing after delivery. Now let a box be placed at the foot of the bed for her to rest her feet against, and attach a sheet to the footboard, for her to pull with her hands. In this way she is able to assist herself and obtain the greatest advantage from bearing down.

When the waters break, we know that the termination of labor is not far distant. Physicians now make an examination to determine the presentation and position. The head of the child may be plainly felt, and the mother's anxiety quieted by assuring her that *everything* is going on well. As the pains become more and more severe, she should be encouraged to keep up her spirits, and not draw away from the pains, but to bear down and assist them. Usually should she keep in one position, the one I prefer being on the back, with the knees drawn up and bent.

When the head commences to distend the soft parts, the physician should place one hand under the vulva, and gently support them, and the other pressure forward. As the child's head distends



the opening, carry the hand forward with it, and when is born it will be received on the hand. Now pass a finger up the neck of the child to ascertain whether the cord is wrapped around it, and if too tight, draw it down so as to loosen it. Also, pass a finger into the child's mouth to remove any phlegm. When the next pulse comes on, the body will pass with considerable rapidity and the child should be carried outward as it passes, with both hands. When born, lay it within the mother's thighs, at the length of the cord. Now wipe your hands to see that the child is breathing freely, and proceed to cut and cut the cord. Take a piece of stout string and tie it very firmly, two inches from the body of the child, then take a second piece and tie it an inch or two outward from the first, and divide the cord between them with a pair of scissors.

Let the child be wrapped in some old woollen material and lay it at the foot of the bed, as the mother requires further attention. Place your hand on the lower part of her abdomen, and if you feel a hard roundness, the size of a child's head, you may be satisfied that the womb is contracted. If not, gently knead it in various directions until the womb does contract into a hard mass. If quite small, not larger than the child's head just born, the afterbirth will be found partly or wholly within the vagina; if large, it is probably yet retained. In such a case, in fifteen or twenty minutes, make pressure on the uterine globe, and slight traction on the cord with the other hand, telling the mother to bear down at the same time. When it passes into the vagina, let the mother bear down hard and withdraw it by pulling upon the cord, twisting it three or four times round, so as to remove the membranes. Always examine the afterbirth, to see whether it is small and round, or if any portion has been left, as an intelligent account of this will sometimes prove a valuable guide to the physician if any unpleasant symptoms should arise.

The afterbirth having passed, apply a folded cloth to the vulva, to receive the discharges, and withdraw the uppermost quilt in order to remove the blood and discharges. Now apply the bandage, pinning it evenly and comfortably tight, and if the mother is thin in flesh, it is well to use a compress over the womb.

The child is now to be attended to, washed and dressed. Have a basin of warm water, lard, soap, soft towels, pins, and its clothes placed in easy reach. Then, with the lard thoroughly grease the child from head to foot, wiping it off before washing with a soft flannel or cotton cloth, to remove the greasy secretion that covers the skin. Now wash it thoroughly with soap and water, paying especial attention to the folds of the arms, groins, neck and legs, that the skin is perfectly clean. Have a piece of soft linen, about six inches square, and fold it with the corners, and with the scissors cut the point off so as to have a central opening to pass the navel cord through, grease it, and apply, the cord passing through the hole in the centre. Lay the cord upward and to the left side, and fold the linen cloth over it, and apply the bandage. This had better be of cotton in the summer, and woolen in the winter, and should be pinned evenly and not too tight.

The child having been dressed, should be put to the breast, in order that its nursing may cause the womb to contract firmly. Many nurses wish to give it something to take the phlegm out of its throat and move its bowels, as urine and molasses, whisky and molasses, castor oil, etc. The child does not need anything, and the nurse should not be allowed to dose it under any circumstances.

The milk first drawn from the breast possesses laxative properties, and its bowels will move in the first thirty-six hours, passing off the *meconium*. If it does not pass its water apply hot cloths to the lower part of the bowels.

The child should be washed and dressed daily, using care to prevent excoriation of the tender skin, and it should not be allowed to remain wet for any length of



time, as this sometimes produces irritation. From the sixth to the tenth day the navel cord separates, and the navel should then be covered with a soft cloth spread with mutton tallow. If it remains sore for some time, may be dressed with the elder ointment, No. 86. If the neck becomes sore, or behind its ears, the same application will speedily heal it.

The mother should be kept very quiet in bed for the first three or four days, and not allowed to raise up in bed herself. Her diet should be light, as toast and crackers, light soups, potatoes, coffee, etc. After the third day she may be allowed meats, and gradually return to her usual course of living. She should not get out of bed before the fifth day, and then only to have her bed made. After this she may sit up a short time each day, until she is able to be up constantly, about the ninth to the twelfth day. The cloths applied to the vulva should be frequently changed, and the parts sponged daily with warm water and castile soap. If there is great soreness, they may be bathed with one part of tincture of arnica to four parts of water.

By the second or third day, the milk comes freely, and now the mother will have some fever, with headache. If the bowels have not moved up to this time, it is enough to give a mild laxative, which will also relieve the fever. Castor-oil will answer, or a seidlitz powder may be taken, or a dose of the compound powder of jalap, No. 7.

The *lochia* is the discharge from the vagina, which continues from eight to fifteen days after the birth of the child. At first it is pure blood, but in three or four days it becomes light colored, and by the ninth day is colorless. The nurse, or mother, should notice the amount of the discharge, and especially any arrest of it. If it becomes scanty, the mother will be feverish and feel bad, and have pains in various parts of the body, and soreness in the region of the womb. To bring the discharge back



it, when deficient, make a strong pennyroyal tea, and let her drink it freely; it is the best remedy known for this purpose. If the discharge should be profuse and continuing, give essence of cinnamon in doses of half a teaspoonful every hour or two.

Sometimes the breasts become painful, from too great engorgement with milk. In this case let them be bathed with an ointment composed of camphor, half an ounce; oil of arnica, one ounce; lard, two ounces. In some cases it is best to use it warm. The breasts should also be well drawn out, either by the child, or some other person, or with a breast pump; or, what is an excellent remedy, a young pup, which should be kept for the purpose until the necessity is over.

Sometimes the young mother's nipples are so small that the child can not get hold of them, much to its distress and annoyance of the mother. A breast pump will usually draw them out sufficiently; or take a pint bottle and fill it with warm water, when as hot as the mother can bear it, pour the water out and immediately rub the nipple.

Frequently the nipple becomes chapped and fissured and exceedingly tender and sore. The child's sucking is very painful, and frequently causes the mother pain, and brings tears into her eyes. They are difficult to cure, as the continued nursing of the child keeps them irritated. In some cases it is best to get a nipple from the nearest drug store, for the child to nurse with, and thus protect the nipples. If it refuses to suck through it, as is sometimes the case, fill the shield with warm milk before it is applied, which will usually induce the child to take hold. The best remedy for sore nipples is the wearing of a shield hammered out of sheet metal and fitted.

Sometimes the child refuses to nurse, and cries and frets when put to the breast. Some care will be necessary to overcome this. Always put it to the breast when

it is in a good humor, and let the mother be in position to give it the breast before it is disturbed. this way it can be got to take hold and nurse. Under circumstances must it be fed, as it may thus refuse to nurse at all, but starve it until it does take hold.

**AFTER-PAINS.**—With the second or third child the mother has more or less pain after delivery, which is termed after-pains, and are more and more severe in succeeding pregnancy. They are similar to the pains of labor, lasting for two or three minutes, and then passing entirely off, to recur in fifteen minutes or half an hour. In some cases they are very severe and annoying, so that the mother will say that she would rather suffer from the pains of labor. In the milder cases they continue for one or two days, but when severe they rarely last less than three or four days. They are usually increased when the mother takes the breast. These pains are necessary to the contraction of the mother, and should never be entirely rested, but in most cases they may be so modified as to give the necessary rest, and prevent undue suffering. Opium in some of its forms is usually prescribed, but I think it much better practice to give macrotys and nite, twenty drops of the first and five of the second, half a glass of water, a teaspoonful as often as necessary.

### **DIFFICULT LABOR.**

A labor may be difficult or lingering, and yet terminate unaided with perfect safety to both mother and child. Labor is a physiological function, and the female body is adapted to meet nearly any circumstance that may arise in its progress. Thus we may say, that in one hundred labors, nature will be sufficient to accomplish the delivery of the child in ninety-nine, the other case requiring artificial assistance.

As we have already seen, the first stage of labor

very greatly protracted without danger to the female, the membranes are not ruptured. It is very annoying, however, and frequently exhausting, and when possible and prudent, means may be used to facilitate its progress.

**INEFFICIENCY OF THE PAINS.**—In many cases the labor progresses slowly, because the pains are irregular or weak, or come on slowly. In these cases a great amount of patience must be exercised, and the woman encouraged by the certain assurance, that after awhile the pains will come right. In many cases, if she walks about the room in the absence of pain, they will be much increased. In others a cup of warm ginger tea may be taken with advantage. Nothing more than this is advisable until a physician is called.

**RIGIDITY OF THE OS.**—Rigidity of the *os uteri*, or mouth of the womb, is occasionally a cause of difficult labor. In these cases the pains are hard, and sufficiently frequent, but the labor makes no progress. If the finger is introduced to the mouth of the womb, it will be found hard and rigid, and it dilates very slowly as the pains continue. In this case we find lobelia to be the most efficient remedy. We employ the tincture in doses of five or ten drops every fifteen minutes until it produces nausea, when the mouth of the womb will become soft and yield to the pains.

**TOUGHNESS OF THE MEMBRANES.**—The membranes containing the waters are sometimes so tough and unyielding to resist the progress of the child. In this case they will be pressed down to near the outlet, and will be felt to be tough and tense during a pain, and do not advance. In each case we scratch or pinch a hole through them with the fingers, and permit the waters to escape, when the labor will again proceed.

**RIGIDITY OF THE SOFT PARTS.**—Rigidity of the vagina and soft parts closing the outlet of the pelvis, is sometimes the cause of slowness. We may rest assured of one thing in these cases, and that is, that nature is competent to effect



their dilation without assistance, as cases are on record where the child passed through the vagina, that, previous to labor, would scarcely admit the finger.

**DISTENSION OF THE BLADDER.**—This sometimes obstructs the passage of the child and protracts the labor, especially if the bladder is carried down before the head. In such cases it should be borne in mind to keep the bladder free from urine, by frequently passing it as the labor progresses. When the bladder is carried down before the presenting part of the child, the female will be unable to pass water, and a physician should be obtained as speedily as possible, as it will have to be drawn off with a *catheter*.

**CONSTIPATION.**—The rectum is sometimes so filled with feces that it offers an obstruction to the passage of the child. This may be determined on examination, by a projection and hardness at the posterior part of the vagina. It should be a rule that the bowels must be moved before labor comes on. Therefore, if a woman's bowels are constipated, let her take a good dose of castor oil when the labor first commences, or instead of this, use an injection to induce a passage. During labor, if this is thought to be the cause of difficulty, let large injections of warm water be used until an operation is obtained.

**SMALL PELVIS.**—Disproportion between the head of the child and the mother's pelvis is a not unfrequent cause of protracted labor. This may arise from a natural smallness of the pelvis, from some deformity of it, or from the child having a very large head. In these cases the labor is tedious, protracted and painful, but even here nature makes the necessary provision in many cases. As the pains act upon the child, its head is gradually elongated and forced into the shape of a wedge, and finally it is adapted to the size and shape of the pelvis. The midwife and nurse are frequently surprised and alarmed at the unnatural shape of the head, but they can be assured that in a few days it will assume its natural condition.

Patience is a great virtue in these cases, and time of

wonders. If the head of the child advances, no how slowly, and the soft parts kept cool and moist, is no danger. On the contrary, if the female be feverish or exhausted, the soft parts being hot and interference is demanded, and a competent physician be in attendance.

means made use of in these, and other cases of difficult labor, are the use of the forceps, or perforating the head. The forceps are two blades of steel, jointed together, and act like a pair of hands applied to the side of the child's head. They are used instead of the hands, where there is not space enough for them. In the hands of a careful physician, their employment is not attended with danger, and very frequently the labor is speedily and safely terminated by their use. In the most difficult cases when no other means avail, the head of the child is perforated with instruments, the brain broken down and removed, and the child is easily extracted. Neither forceps, nor these instruments, are used if they can be avoided, and are only resorted to, to save the life of the mother or the mother.

labor is more difficult in face presentations, than when the vertex presents. The pains are usually more severe and distressing and the child passes slowly. Patience is more requisite, however, as nature is sufficient for the delivery. We determine a face presentation by feeling the eyes, nose, mouth, chin and forehead. In these cases swelling and deformity of the countenance may be expected, and the mother should be so informed before the child is born.

When the forehead or an ear presents, the labor will be still difficult, though in these cases nature will frequently overcome the mal-position. A skillful physician will soon surmount the difficulty, and the labor will progress as in the usual case.

**PRETERNATURAL LABOR.**

A preternatural labor is one in which some of the child than the head presents, when the than one child, and in cases of monstrosity. N head, the breech presents most frequently, and shoulder of the child, least frequently.

**BREECH PRESENTATION.**—A *breech or foot p* may be determined by the softness of the prese and the depression between the legs and the gen Labor is not always more difficult in these ca natural labor, and in but very few is there muc in the birth of the child. The breech is obser downward under the influence of the pains, in manner as the head. The mouth of the wo the bag of waters is formed and ruptured, and breech appears at the vulva. As the labor co body is forced down, and finally the head, the most difficult portion, is passed from the vagin

The management of a case of this kind doe much from a case of natural labor. Nature ac the work in a regular and orderly manner. Th should be supported as before, when the child and as soon as the lower part of the body i hands should be drawn down. In all cases th of the head of the child must come to the fi pelvis, and if this is not being done, grasp the l child with the hands, and gradually effect the tation as it passes down. The most difficult labor is the passage of the head of the chil vagina, as it is now outside of the womb and acted on by it. In such case we elevate the b child gradually, and tell the mother to bear dow If this is not sufficient, two or three fingers are under the head and passed into the mouth. body of the child being raised, it can be drawn force exerted on the mouth sufficient to extract



In these cases, and even in natural labor, the child may be still-born, it does not breathe, and the heart acts feebly, or not at all. Have some cold water immediately brought to the bedside, and sprinkle it with considerable force upon the face and breast. At the same time let the child be turned slowly from its back to its east, to induce respiration, or let the plan be adopted at we named for the apparently dead, in volume 1. In some cases the lungs may be inflated by applying your mouth to the child's, being careful not to produce too much pressure. In others it will be of advantage to give the child a warm bath. The umbilical cord should not be cut for some time in these cases, especially if there is the slightest pulsation. Care and perseverance will sometimes accomplish wonders in such cases.

**SHOULDER PRESENTATION.**—A shoulder or side presentation is one of the most difficult and dangerous cases of labor. It is impossible that the child should be born by the unaided powers of the system, unless it is a premature birth, and the pelvis is very large. The early attention of a skillful physician will, in this case, save the life of both mother and child.

The symptoms of the first stage of labor do not differ in any respect from natural labor, further than the womb dilates slowly, and the bag of waters is elongated in place globular, and sometimes the arm or hand can be felt in

When the waters are discharged, the shoulder is pressed down into the pelvis, and is the only part that can be felt. If the child is not turned, the pains are very severe, but inefficient, the female's strength becomes exhausted, hemorrhage sets in, and, becoming profuse, she dies.

Such cases should be recognized before the waters break, if possible, and when this occurs the child should be turned. To the dexterous physician the child is turned at this time as easy as the operation is described. The hand is introduced into the womb, a foot found and

done. Hence it would become an opening into the side of the child, t

TWINS AND TRIPLETS.—In cases of unfrequently as easy and speedy as child, though in most cases it is slow presents by the head, the other by is not always the case. These labor as heretofore described. When one cut the cord and remove it, and wait the second and third, which are tedious. The afterbirths will usually not generally pass until the birth of

MONSTERS.—In some cases the fetus is developed, and in this case is termed conjoined. Some have two heads, others part of two to be two children joined together.

We can hardly ever determine the difficulty is, but we may feel that the force of the system are sufficient in a majority of cases to effect the delivery. The Siamese twins, cases as difficult, have occurred, and have recovered. In one case of this kind the labor was severe and protracted, and the physicians were unable to determine the reasons for

**COMPLICATED LABOR.**

Labor may be complicated with disease, or accidental circumstances, that will render it dangerous to the mother. These cases demand great care and skill in their management, and should always be entrusted to the physician. From any cause, trouble is anticipated, obtain the services of the most skillful physician in this branch that can be had, and have him in attendance at an early period of the labor.

Of these complications, *hemorrhage*, or flooding, is of most frequent occurrence, and is usually regarded as most alarming. It may occur previous to, and during the first stage of labor, after the expulsion of the child, and after the birth of the placenta.

**UNAVOIDABLE HEMORRHAGE.**—The severest form of hemorrhage arises from the attachment of the afterbirth over the mouth of the womb, so that when the os is dilated, the afterbirth is more or less detached, and blood is discharged from the open vessels; hence, it is termed *unavoidable*. In these cases flooding usually occurs previous to the coming on of labor, sometimes as early as the seventh month. It comes on as well at night, when the female is asleep in bed, as it does when she is going about, the first evidence she has being the free discharge of blood. Continuing for a time, it ceases itself, to again reappear in two or three weeks. In this way it may occur several times before labor comes on, in some cases producing great prostration.

With the first pains of labor, hemorrhage comes on, and continues to increase as the mouth of the womb opens. Sometimes it is so profuse as to exhaust the female in a short time, but in others it is not so marked. The womb contracts strongly, so as to force the head of the child down firmly into the mouth of the womb, labor may be accomplished without much risk, but this is very rarely the case. In the majority of instances, skilled



assistance must be at hand early in the labor to save the life of the mother.

In these cases, if a physician can not be obtained, saturate cotton cloths with a strong solution of alum, and gently pass them up to the womb, then the vagina so that the blood can not escape. Let them remain until the physician arrives, keeping the patient perfectly still. If he can not be obtained, the labor progressing, and the discharge so profuse that it is evident that she can not survive long, let an attendant put her hand into the vagina, detach the afterbirth and wipe it. This will, in most cases, stop the flooding, which case may be left to nature. No internal medicines are at least good, and it is worse than useless to give stimulants to keep up the strength as long as the cause of the hemorrhage continues. If the patient faints, it is all over for her, and she should not be aroused, as during fainting the discharge of blood ceases.

Except this, hemorrhage very rarely occurs before the birth of the child, except from great exhaustion. In such cases, a tincture of the oil of cinnamon, in doses of half to one teaspoonful every few minutes, is one of the most efficient means. Gallic acid, in doses of five grains may be used, and brandy or whisky given to support the strength.

**HEMORRHAGE AFTER THE BIRTH OF THE CHILD.** Immediately after the expulsion of the child there is always more or less discharge of blood, and it usually amounts to from a pint to one pint. In some cases the flooding is so profuse that the mother can feel it running from her, and her clothing soon becomes saturated. It may commence immediately, or a short time after the child is expelled, before the expulsion of the placenta. When very profuse the mother becomes pallid and faint, the pulse is feeble; symptoms which at once attract attention.

Immediately place the hand on the lower part of the bowels, and knead them with firm pressure, until

ontracts. At the same time make traction on the cord, to stimulate contraction and the expulsion of the placenta. The tincture of oil of cinnamon may be used internally, and frequently repeated, or the gallic acid; if neither can be obtained, use the nutmeg and heretofore recommended. Cold applications may be used.

If the hemorrhage is so profuse as to quickly endanger the life of the woman, and medical attendance can not be obtained immediately, roll up your sleeve and pass your finger into the cavity of the womb. If you are frightened, sit up until you recover the use of your faculties, and then lie down. Keep the afterbirth, which will almost always be expelled. Still keeping your hand in the womb, where it acts as a stimulant, and while the arm as a plug checking the flow, knead the womb with the other hand until it is empty, forcing out both hand and afterbirth.

After using the internal remedies, let a bandage and compress be tightly applied, and keep the woman perfectly quiet. The same means will be employed in flooding until the afterbirth is discharged.

The mother should use great care after such a hemorrhage. Exertion, or raising up in bed may bring the flooding back. Careful nursing, however, and remaining in bed for a longer period will obviate all its effects. It is not to use stimulants after flooding, except with the advice of a physician, and the diet should be such as will be easily and quickly digested, and not burthen the digestive organs.

I prefer animal broths in these cases, as beef tea, chicken, or chicken broth, with crackers or bread.

**RETENTION OF THE PLACENTA.**—As heretofore remarked, the placenta, or afterbirth, may be retained for an hour or more without want of pain, but will at length be discharged with some trouble. In many of these cases it is detached from the uterine wall and will be found at the mouth of the vagina, which it covers like a button in a button hole. The abdominal muscles may not be sufficient to expel it at all when in

this position, hence physicians always remove it in such cases. The cord is grasped with one hand and maintained tense, and the finger of the other hand is passed up along it as a guide, until the edge of the placenta can be felt; the finger is then hooked over it and the edge is drawn down, thus removing it easily as we would unbutton a coat.

In other cases it passes into the vagina, but this cannot be so relaxed and powerless that all the efforts of the woman are not sufficient for its expulsion. In this case twist the cord three or four times around the fingers and maintain steady traction, telling the mother to bear down firmly. If a reasonable length of time has elapsed, and it will not pass, introduce a finger and hook it over the edge, or its substance near the cord, and with the bearing down of the female it may readily be withdrawn without resort to force. The same plan should be pursued when the cord has been broken off.

There are rare cases in which the afterbirth is more firmly attached to the uterine wall, and requires the introduction of the hand into the womb for its removal. This does not occur, however, once in one thousand cases. In other cases there is irregular or hour-glass contraction, and the afterbirth is retained on this account.

Recollect, that in any case, there is no immediate danger if the mother is not flooding, though she cannot be considered safe until it has passed. As its descent and passage from the womb depends upon its relaxation, or pain, stimulating this by pressure over the abdomen, gently kneading the uterine globe, is one of the most efficient means.

**INVERSION OF THE UTERUS.**—[In some very rare cases the womb is turned inside out, after the birth of the child is found in the position represented by Fig. 13. It has been supposed by many authorities that it was always caused by pulling on the umbilical cord. It is now believed that it depends upon its own irregular contraction, though too great force applied to the cord is the



frequent exciting cause. The symptoms attending this accident are profuse hemorrhage and alarming prostration, the womb being found in the unnatural position represented.

FIG. 13.

*Inversion of the Uterus.*

There are few women with nerves strong enough to attempt to rectify the difficulty, and they should not attempt it if a physician can be obtained in a reasonable time. If no help can be had, peel off the afterbirth, and in the absence of pain, press the hand firmly against the center of the tumor and press it back to its proper position. Of course the hand will be within the cavity of the womb, where it should be retained until it contracts into a globe.

**RUPTURE OF THE UTERUS.**—This is one of the most dangerous accidents of labor, and is invariably fatal to the mother, though the child's life may be saved. It is, however, of very rare occurrence, and hence is little to be feared. The uterus always gives way during a pain, and

a portion, or all of, the child escapes into the cavity of the abdomen. The symptoms are very plain: the female experiences a sharp cutting sensation, and feels that something has given way, and in a moment there is very great prostration, fainting, or even death. The physician puts his hand into the womb, and even through the opening into the abdomen, and grasping the child by the feet extracts it.

**RUPTURE OF THE PERINEUM.**—The tissue closing the space between the vagina in front, and the bowel behind is called the perineum, and this may give way during labor. It is usually caused by too rapid passage of the child's head, and sometimes by rigidity of the soft parts.

It may be avoided by properly supporting these parts during the last stage of labor, and especially by cautioning the mother against bearing down while the head is passing through the vulva. Much harm is sometimes done by the attendants constantly telling the female "to bear down," and insisting that she shall *do* it harder. When the soft parts are rigid and unyielding, strict attention should be paid to this matter.

The results of this accident, when it is severe, are very deplorable, as the female can not retain the contents of her bowels, and there is constant tendency to displacement of the pelvic organs. There is one consolation, however, and that is, that it can be permanently cured by a surgical operation.

**PUERPERAL CONVULSIONS.**—The occurrence of convulsions during labor, is a very serious matter, and in many cases will prove fatal in spite of all treatment. The causes of *puerperal convulsions* are obscure, and vary in different cases. In some cases it is undoubtedly dependent upon deranged action of the kidneys for a long time previous, by which the blood is poisoned. In others it depends upon an irritation of the nerves, produced during labor.

The symptoms are very marked, and can not be

ken. All at once the female becomes entirely unconscious, and has more or less violent convulsive movements of all parts of the body. Every function of the body is violent, even to the breathing, which is hissing. The convulsion may last but a minute, or it may continue for five, ten, or fifteen minutes, when it passes off, to recur again in a very short time. Thus it continues, the paroxysms becoming harder, and the intervals less, until it is arrested by medicine, or the sufferer dies.

Of course, a physician will be called as speedily as possible. Until he comes, give a teaspoonful of tincture of belladonna, every five minutes, in the intervals between the convulsions, until it produces vomiting, or the convulsion passes off. To assist its action, use an injection into the rectum of three teaspoonfuls of tincture of lobelia, one of opium, to half a teacupful of tepid water, retaining by pressing a towel against the rectum.

### CHLOROFORM IN LABOR.

"The distress and pain," observes Dr. Denman, "which women often endure while they are struggling through a difficult labor, are beyond all description, and seem to be more than human nature would be able to bear under any other circumstances." And, as Dr. Simpson remarks, even the amount of agony endured in most cases of natural parturition, are abundantly severe. Viewed apart, and in an isolated light, the total sum of actual pain attendant upon common labor, is as great, if not greater, than that attendant upon most surgical operations. It is, I believe, education and custom, and perhaps the idea of an inevitable necessity, which have made physicians look upon the degree of natural pain and physical suffering accompanying natural parturition, as less deserving of consideration than it actually is.

"Is it right," says the same author, "for the physician to interfere with the sufferings and agonies, in



order to save and shield his patient from the endurance of them? Is it proper for him to exercise the skill of his art so as to moderate and remove these 'intolerable pains?' Would it be fit and meet in him to use human means to assuage the pangs and anguish attendant upon the process of parturition in the human mother?"

These questions present themselves to every physician and to every mother. Is it necessary that she should endure these pains? Not at all, because we have in chloroform an agent that will render her unconscious to suffer until the labor is completed. Some claim that the administration of chloroform for this purpose is in direct opposition to the will of the Almighty, who said, "In sorrow shalt thou bring forth children." Let these learned doctors bear such pain for a few hours, and their religious scruples would vanish into thin air.

The important question with the mother is, is it necessary? This I can answer in the affirmative, as in my practice I have never seen the slightest ill effects, either during labor or in getting up. My former partner, Dr. Newcomb, has employed it in nearly every case he has attended in the last ten years, without a single accident; and the testimony of Dr. Simpson, who has administered it in over a thousand cases of labor. Its benefits are graphically described by the same writer:

"The practice of anæsthesia in midwifery not only saves the mother from the endurance of unnecessary mental anxiety and unnecessary physical agony, it saves her also from some of the dangers attendant upon parturition by husbanding her strength and warding off the effects of that exhaustion and nervous depression which the fatigue and shock of delivery tend to produce. In most cases the mothers, after delivery, on waking from their anæsthetic sleep, have expressed their surprise at their feelings of strength and well being; and many who have borne children previously, have gratefully declared the great difference which they have found between

condition after being delivered under anæsthetics, and without pain and suffering, and their state of prostration after former labors, when they were subjected to the endurance of all the usual 'pangs and agonies' of parturition. Nor does the benefit end here: By annulling the parturient pains and shock, and their direct and primary depressing effects upon the constitution, we ward off, I believe, to a more or less marked extent, the chances and dangers of those secondary vascular excitements which are always apt to follow directly upon them. We increase the chances of a more speedy and a more healthy convalescence; and both patients and practitioners have, as a general rule, had occasion to observe, that the period of convalescence has been evidently curtailed and shortened by the previous adoption of anæsthesia during delivery."

### ***PUERPERAL FEVER.***

The lying-in woman is liable to a severe form of fever, which is called puerperal fever. It makes its appearance in the majority of cases before the ninth day, usually about the second or third day. In some cases it is undoubtedly caused by cold, in others it results from the absorption of decomposing animal matter from the womb or vagina, and in others it arises from epidemic or contagious influence.

It has not been definitely determined, as yet, whether the disease is contagious or not, yet some circumstances go to show that it is. Thus, an eminent physician in New York, doing a very large obstetric practice, had it to occur in every case that he attended one season, and had to quit his practice, while others in the same neighborhood did not have a single case. Such facts as these would go to prove that it would be very hazardous for a practitioner who is attending a case of puerperal fever, to continue to attend women in labor. Mothers should

ercise a sound discretion in this matter, and if the physician was thus objectionable, obtain some one else.

**SYMPTOMS.**—Puerperal fever usually makes its appearance with a severe chill, and pain and soreness in region of the womb. This chill will frequently last several hours, and is succeeded by a high fever. The patient becomes very hot, dry and husky, the pulse frequent and hard, the tongue dry and parched, the bowels bound, the urine scanty, and the nervous system much excited. As time passes the symptoms become more severe, the lochia discharge and the secretion of milk are arrested, and the patient is delirious. By the third or fourth day the symptoms will be very severe, and the most casual observer will observe that it is a very grave case of disease.

Passing on beyond the seventh day, the strength is much exhausted, and *typhoid* symptoms are marked. The tongue is brown or black, dark accumulations around the teeth, the bowels are swollen and very tender, and the lochial discharge, if not arrested, is very offensive. By the eighth day the patient becomes weaker, and all the symptoms more severe, until at length, if not arrested by treatment, the patient dies.

Early attention is of great importance here, and it is well to give the mother a solution of chlorate of potash and the usual doses of aconite, when the first unpleasant symptoms are noticed.

The after treatment will of course be under the direction of a physician.

#### **PHLEGMASIA DOLENS—MILK LEG.**

This is a disease of the puerperal state, and usually occurs between the fourth day and third week after delivery. It may make its appearance in first labor, but in the majority of cases it occurs in women who have borne several children, and in those of a delicate and lax habit.



use of the disease is not well known, though it is supposed to arise from cold or over exertion.

**SYMPTOMS.**—The disease is usually ushered in with a chill of greater or less severity, which is succeeded by fever. With this the patient complains of pain in the upper part of the abdomen, loins and groin, not very severe, but a source of aching and soreness. In a short time swelling of the limbs commences, and there is severe pain and tenderness in it. In the majority of cases, the first marked evidence of the disease will be slight enlargement and hardness of the calf of the leg, and when felt of, it will seem to be fast to the bone, and pressure on it will produce considerable pain.

The leg gradually increases in size, and is white, pale and shining; it is usually warmer than natural, though in some cases it is colder than the other limb. At the commencement of the swelling it will pit on pressure, but afterward becomes so tense that no impression can be made on it. The entire limb is tender on pressure, but this is specially marked along the course of the femoral vein, which may be felt hard and rolling under the finger like a cord.

The disease is usually very slow, and the swelling may continue for six or eight weeks, or longer, though the fever usually subsides by the ninth day. In some cases the disease becomes chronic, and lasts for many months, even years. In others, the inflammation is very high and terminates in suppuration, extensive abscesses being formed in the thigh, giving rise to a great amount of suffering and prostration.

**TREATMENT.**—Always get a good physician if it is possible; if not, the following plan may be adopted: To a pint of glass of water add tincture of aconite five drops, tincture of macrotys twenty drops; in another put twenty drops of tincture of *phytolacca*: give them alternately, a teaspoonful every hour. If the odor of the breath or

a saturated solution of chlorate of potash, a teaspoonful every three hours. The swollen limb may be bathed with one part of phytolacca to three parts of water, or with an infusion of the green poke root.

Have a large bucket of water hot, add mustard and bathe the feet for half an hour, adding hot water to keep it as warm as the patient can bear it, at the same time using an infusion of pennyroyal, which may be continued as a drink throughout the disease. After three or four days, all the medicine the patient needs is the sedative, and a solution of half an ounce of potash to four ounces of water, a teaspoonful every four hours.

As long as the pain continues, bathe the lower part of the bowels, back and loins, with equal parts of tincture of arnica, tincture of camphor and water. The best application that can be made to the limb is phytolacca, or jimson-weed leaves, bruised and moistened with

Fig. 14. vinegar and water. In place of smartweed may be used in the same manner. When the acute symptoms have passed off, I always apply a flannel bandage, as shown in the next Fig., sometimes wetting it with the arnica mixture above named.



*Bandage.*

## PART II.

### DISEASES OF WOMEN.

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women are liable to the same diseases as men, and, in addition, others which are dependent upon their special organization. These special diseases are divided into functional and structural—the first being those which are dependent upon deviation from the natural or healthy condition of the reproductive organs; and the second upon changes in their structure. These diseases are of very frequent occurrence, and entail a great amount of suffering among women, being in the ratio of about five to one to other common affections.

Nearly every other woman you meet, has some trouble with these organs, and a very large number have their health permanently impaired, and lead wretched lives in consequence. American women seem to have a larger number of them than any other nation; and it is not difficult to account for this fact. As a general rule, our women have less recreation, and take less exercise, than any other people. An English woman of the higher class attends to her household affairs, sees to her gardens, and takes abundant exercise in the open air, riding or walking. In addition to this, are periods of relaxation with her family and friends, which seem to give variety to life, and greatly conduce to health. Even the poorer classes, though they have to labor hard, have their periods of relaxation and open air exercise.

With American women, it is r

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onous confinement to the house; or if they go out must be dressed and act with such precision that they neither have exercise or relaxation. The husband, male relations and friends are immersed in business, and commences with their getting up in the morning ceases only when they close their eyes in sleep. They have no time for any thing but business, and are absorbed by their cares, that any thing that would divert the current of their thoughts, would be deemed almost a sacrilege.

A man will go poetically wretched, or morbidly anthropic, or any great misfortune will overthrow him entirely, drive him to insanity, lure him to slip his life through the terrible by-road of suicide; but he drags on existence from year to year with "nerves, spirits," and the various maladies of mind and body that make many women a torment to themselves and a burthen to all connected with them.

Why is this? and is it inevitable? Any one who can in the smallest degree answer this question, would be doing something to the lessening of a great evil—more than many other evils which, being social and political, show more largely on the aggregate census of females.

Most assuredly, however unpoetical may be such a view of the matter, the origin of a great deal of unhealth is physical disease; or, rather, the loss of that condition of body which, in the present state of civilization, so far removed from a state of nature, can only be kept in any individual by the knowledge and practice of the ordinary laws of hygiene—generally the very knowledge that women seem to have. The daily necessities of water, fresh air, proper clothing, food and with the due regulation of each of these, without which no human being can expect to live healthily or happily, matters in which the only excuse for lamentable neglect is still more lamentable ignorance.

An ignorance the worse, because it is generally

ged. If you tell a young girl that water, the  
ter, is essential to every pore of her delicate  
orning; that daily out-door exercise, short of  
ue, regular meals, employment and amuse-  
ner a vital necessity; that she should make  
er education to acquire a certain amount of  
nation on sanitary science, and especially  
of her own being, physical and mental: tell  
the chances are she will stare at you uncom-  
or be shocked, as if you were saying to her  
proper, or answer flippantly, "Oh! yes; I  
"

good does it do her?—when she lies in bed till  
d sits up till any hour the next morning;  
er of food at all manner of irregular intervals;  
t leaving her bedroom window two inches  
ing caught in a slight shower; yet will cower  
e fire in a high woolen dress, and put on a  
ne in the evening. When she wears all  
oots, gossamer stockings, a gown open at the  
s, and a loose mantle that every wind blows  
onders that she always has a cold—and  
d down in summer time with four petticoats  
er the other, yet is quite astonished that she  
tired so soon! Truly, any sensible, old-  
y, who knows how much the health, happi-  
ral well-being of this generation—and, alas!  
ation alone—depend upon these charming,  
ating young fools, can not fail to be aggra-  
e every day."

imiliating the fact may be to those poetical  
, in spite of all the laws of nature, wish to  
l entirely independent of the body—forget-  
, its temporary probation in the body at all  
een quite unnecessary—I repeat there can  
sanitary state of mind without a sane condi-

tion of body ; and that one of the first requisites for piness is good health.

### *AMENORRHOEA.*

By amenorrhœa we understand the suppression of menstrual discharge when it has once appeared, or the non-appearance at the period of puberty. The first is called primary amenorrhœa, the second as suppression of the menses, the third as retarded menstruation.

**RETARDED MENSTRUATION.**—As we have already said when describing the physiology of the reproductive apparatus, menstruation, or the monthly discharge in women, usually occurs between the age of twelve and sixteen years. It may come on earlier than this, or it may not appear until the eighteenth or twentieth year. It is marked by the developement of the system, the change from girl to the woman. The organs of generation increase in development, the breasts become prominent, and the tastes and feelings of the young female undergo a marked change. In addition to this, she usually experiences, for three or four periods, a pain in the back and limbs, weight in the pelvis, and feeling of languor that is unusual, before the discharge comes on.

If all of these signs of puberty have made their appearance, and the discharge does not come on, and especially if she exhibits evidence of disease, we say she has amenorrhœa. The most common symptoms are headache, a sense of fullness and weight about the bowels, a pale countenance, torpor, lassitude, pain in the back and limbs, irregular circulation, and more or less disturbance of the nervous system.

**TREATMENT.**—The non-appearance of the menstrual discharge may be owing to a want of circulation of the blood to the organs, or to want of normal stimulation. It is generally the case when the girl is of a lymphatic temperament, and sluggish in her appearance and movements.



In this case laxative doses of aloes, from one to three grains, twice a day, with the use of the hot foot bath, and an infusion of pennyroyal at night, with sometimes the application of mustard plasters to the inside of the thighs, will be sufficient.

In the second case, there is too much blood sent to these organs, and too much excitation. This is marked by the pain, weight, and sense of fullness in the pelvis, flushed face, pain in the back, etc. Here we would give a cathartic of cream of tartar, citrate of magnesia, or a seidlitz powder. Bathe the feet well in hot water, give the pennyroyal tea, and if this does not seem sufficient, let her sit over the vapor of bitter herbs.

In the third case, the young girl presents marked evidence of anæmia. She is pale and bloodless, poor in flesh, and feeble, her appetite is not good, and her food digests slowly and imperfectly. In such a case as this we would give the bitter tonics and iron, and with bathing, proper exercise, and a nutritious diet, build up the system, and increase the quantity of blood, when in all probability the discharge would appear.

**SUPPRESSION OF THE MENSES.**—The monthly discharge is most frequently arrested by cold contracted during a menstrual period, as by getting the feet wet, sitting on the damp ground, washing the body with cold water, etc. Though this is the most frequent cause, yet it may be arrested from severe mental emotion at these times, and from other acute diseases. A long ship voyage is likely to cause arrest of the menses, as we observe in women coming from a foreign country.

The amount of disturbance consequent upon suppression of the menses varies very much in different cases. In some there is a slight headache, a feeling of weight in the pelvis, pain in the back and in the limbs, and more or less feverish symptoms. These recur at each menstrual period and continue for five or six days, when they pass off. In most cases the general health suffers to a greater or less

cases, though if mild means fail, be consulted. When the discharge is scanty, bathe the feet thoroughly in mustard water, and a tea made of smartweed, pennyroyal, &c. is not sufficient, use the hot sitz bath for an hour at a time, or sit over the steaming tansy, hoarhound, hops, etc. If the discharge is scanty, add five drops of aconite and two drops of belladonna to half a glass of water, and give it every two hours. If there is no fever, give the belladonna, pulsatilla. In long continued cases, the treatment may be commenced three or four days before the period, as that is the only time that it can be brought on.

### ***DYSMENORR***

By dysmenorrhœa, we understand a painful flow of the menses, they become scanty in quantity; in severe cases contain clots, or even an entire false membrane. The menstrual flow is always accompanied by pains in the back, limbs, and in the abdomen, though it is generally of

times a day. It should be commenced before the expected monthly period, the discharge is free and painless. Menstruation is essentially a chronic disease, and remedies will have to be repeated until the patient is wholly relieved. It is necessary to resort to them occasionally.

If these fail to give relief, we will use *num*, which has proven a most valuable remedy in cases. I use it in the proportion of one to the half glass of water, a teaspoonful four hours. In some cases the pain is due to structural disease, which will require the aid of a skillful physician.

### ***MENORRHAGIA***

Profuse menstruation, or flooding, is called menorrhagia. It may occur either in the plethoric and robust, or in the debilitated and exhausted habit of body. As in describing the functions of these organs, it varies greatly in different persons, being small in quantity in others being



We have two new remedies which have been used with excellent results. Charcoal, thoroughly powdered and then mixed with six times its bulk of white sugar and rubbed up again, is given in doses of about one grain every hour or two. It is especially useful where the surface is pallid and bloodless. Ipecac is another very good remedy. Add ten drops to half a glass of water, and give a teaspoonful every half hour or hour. Beecher's in doses of half a grain every three hours, is a remedy in chronic cases.

### LEUCORRHŒA--WHITES.

Leucorrhœa is a whitish discharge from the vagina, consisting of mucus, or mucus and pus; it is generally known by the name of *whites*. Very many women have it slightly at times, and quite a large number have it to such an extent that it is an exhausting drain upon the system.

The causes of leucorrhœa are various. In some cases it arises from chronic inflammation of the mucous membrane of the vagina; in others, from debility and exhaustion produced from other diseases; from too frequent coitus, or from prolonged nursing. In other cases, again, it is caused by disease of the neck of the womb, and in rarer cases it arises from disease of the lining membrane of this organ.

VAGINAL LEUCORRHŒA.—In vaginal leucorrhœa, the discharge may be white, but is most generally a creamy white, or even yellowish. It is a creamy fluid, possesses little tenacity and is opaque. It may be discharged in very large quantities, and in such cases the vagina will be found relaxed and flabby. Frequently there are sensations of soreness and tenderness on pressure, and in a majority of cases there is a feeling of weight, pressure, or bearing down, which is very annoying. Occasionally there is some trouble with the bladder, with a frequent desire to make water, pain and burning when it passes, or the

difficulty in passing it. There is usually constipation of the bowels.

If the disease has continued long, the general health is considerably affected. She is weak and feeble, her appetite is poor or variable, digestion imperfect, with frequently quite severe dyspepsia. It would seem strange how so slight a trouble could produce such serious results, did we not know the intimate sympathy that exists between these organs and the general system.

**TREATMENT.**—Proper attention to the person will almost always prevent this disease. Every woman should have a rubber pump syringe, and should use an injection of moderately cold water once a day, or at least two or three times a week, for the purpose of cleanliness. The natural discharges, by being retained, sometimes give rise to irritation and relaxation, and the discharge we are speaking of.

In mild cases, the frequent use of cold water alone will sometimes be found sufficient to arrest the discharge. In other cases, a tea of yellow root may be used as an injection, or a decoction of white oak bark. I more frequently prescribe chlorate of potash, one ounce; sugar of lead, one drachm, to be divided into six powders; one of these is added to a pint of water and used as an injection. One drachm of alum to a pint of water will also answer a good purpose.

In using the injection, first wash the parts by using simple water freely, then, lying down, introduce the tube high up in the vagina, and throw in the medicated injection. This should be retained for five or ten minutes, in order to obtain its full advantage. A great many women, when directed to use an injection, do it so imperfectly, and use so small a quantity, that no good results come from it.

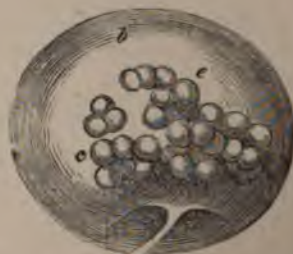
As regards the general treatment, I sometimes use the nature of muriate of iron, in doses of twenty or thirty drops, four times a day, with marked advantage. In other

cases, equal parts of cubebs and carbonate of iron, much as will lie upon a ten cent piece, three or four times a day, exerts a good influence. In the majority of cases however, the collinsonia tonic will be all the internal medicine the patient requires.

**UTERINE LEUCORRHOEA.**—The discharge may come from the neck of the uterus in rare cases, or from its cavity and is then called uterine leucorrhœa. In some cases there is ulceration of the neck, in others chronic inflammation of its cavity, and in others a diseased condition of its entire mucous lining.

The discharge varies in character, according to the nature and character of the disease producing it, when the internal surface of the neck of the womb is diseased, shown in the cuts below, the discharge will be a yellow or yellowish-green, creamy fluid. When the discharge comes from the cavity of the cervix, or neck, it is strictly transparent, very tenacious, and resembles white of egg. When it comes from the cavity of the uterus, it is generally thin and watery, looks dirty, and has an unpleasant odor.

FIG. 15.



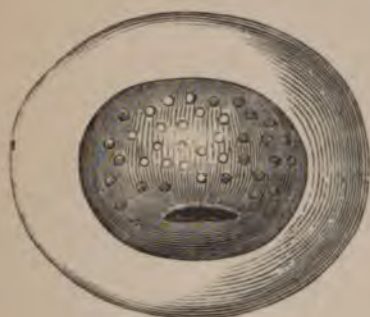
*Neck of the Womb in Leucorrhœa.*

Fig. 15 represents the appearance of the neck of the womb in a severe case of uterine leucorrhœa. There is chronic inflammation, softness and dilation of the neck, and several small roundish elevations, as seen in the



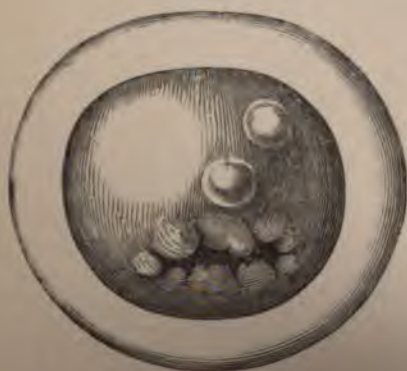
g. 16 represents a case of similar character, the menses were abundant and irregular, and there was severe leucorrhœa. The neck of the womb was livid, and red with small vesicles, and these, with the mouth of the womb, bled on pressure, and during movement of the limbs.

FIG. 16.



g. 17 represents a more severe case, there was inflammation and ulceration, the menses being frequent in their occurrence and abundant, and between the periods there was a leucorrhœal discharge. The patient had a great

FIG. 17.



amount of pain, which was increased by pressing on the womb.

Fig. 18 represents a case of severe inflammation of the neck of the womb, which was enlarged, and had a well defined ulcer extending into its mouth. The woman suffered much pain, with a sensation of dizziness and bearing down; the leucorrhœal discharge was not in as large quantities as the preceding cases.

FIG. 18.



In uterine leucorrhœa the general health is considerably affected, especially if the discharge is large. The patient complains of a sensation of weight and bearing down the pelvis, soreness across the lower part of the bowels, and aching and pain in the back. The monthly periods are almost always irregular, recurring before their time and continuing longer. The discharge is sometimes darker colored, and unpleasant, but in others may be more or less mixed with the discharges, or may be natural.

The appetite is frequently impaired, and digestion more or less imperfectly performed—the patient has dyspepsia. The bowels are constipated, and sometimes there is a sensation of uneasiness and pressure in the lower bowel, and not unfrequently an unpleasant sensation

**passing water** If the disease is severe, the female will in **most cases be sterile.**

**TREATMENT.**—It is only the milder cases which will prove amenable to domestic medication, in others a physician should be consulted. We first endeavor to sustain the general health by appropriate means. Thus we get the bowels regular, by the means named in Vol. I., paying especial attention to their evacuation at a certain period every day. The urinary organs should also be noticed, never allowing the bladder to become unduly distended. A daily bath is of great importance, commencing with the water warm enough to be pleasant, and gradually getting it cooler, until cold water can be used. A basin of water, a sponge, and a coarse towel, is all that is necessary for a bath, sponging the surface and then rubbing with the towel until a glow of heat is experienced on the skin. The lower part of the abdomen and thighs may be bathed in salt water, rubbing them thoroughly.

The internal remedies should be selected from those named under this head, choosing the one or ones indicated by the symptoms in this special case. In the majority a tonic or restorative treatment will also be necessary, which, associated with good food, rest to the parts, and pleasant surroundings, does much toward the cure.

We rely mostly upon local applications in these cases, using the pump-syringe. Let the vagina be thoroughly washed out with cold or warm water, whichever feels best, and then use the medicated injection. Chlorate of potash, one ounce, sulphate of zinc, one drachm, divided into six powders, and one of these added to a pint of water, is an excellent injection. Alum, two ounces, and sulphate of zinc, one drachm, divided into six powders, also answers a good purpose. The yellow root, heretofore mentioned, and the white oak bark, may also be used. A very good injection is made by taking equal parts of dogwood bark and yellow dock root, and making a strong infusion of them with boiling water.



When there is much irritation and soreness, we sometimes obtain the most advantage at first from the use of equal parts of milk and water, warm. Slippery-elm and flaxseed tea may be used in the same cases. In the severe and more persistent cases of the disease, it becomes necessary to consult a physician, have an examination made to determine the condition of the organs, and have the remedies applied to the diseased parts.

#### AN EXAMINATION.

Many women suffer for months, or even years, until their health is undermined, and their happiness destroyed before they will make up their minds to have an examination made, to determine the seat and character of the disease. There is no doubt but that it is very unpleasant to have an examination made, yet it must be recollected that very frequently it offers the only chance of a restoration of health. The physician must know what part is diseased, and the nature of the disease, before he can prescribe intelligently. Hence, if the sufferer wishes to get well, the earlier she submits to the only means that will cure her, the better she will be off. There is little postponing the time, in hopes that she may get better; in these cases rarely or never get well without appropriate medicine.

An examination is not much if the woman views it properly. It is something that nearly every woman is to undergo at some period of her life, and the physician should be regarded as a friend, and one conversant with all that pertains to the human system, and it is his duty to do these things, thereby relieving suffering and distress.

In some cases an examination with the finger is all that is necessary. The physician having appointed a time to meet the lady for this purpose, she should have a friend or acquaintance with her. Let some lady or doctor

used handy, with a basin of water, soap and towel. Now let her lie down on the bed, on her back, throwing a blanket or spread over her. The physician passes his finger into the womb, and by carefully feeling of its surface, its position, and the vagina, he is enabled to determine pretty accurately what the difficulty is.

In some cases it is necessary that the parts be seen, and for these an instrument called a *speculum* is used, to dilate the parts, and throw light up to the uterus. Figures 19 and 20 represent the two forms of instruments used.

FIG. 19.

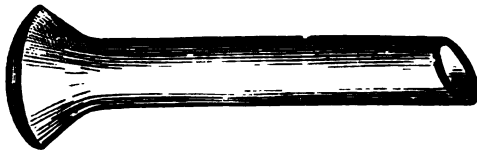
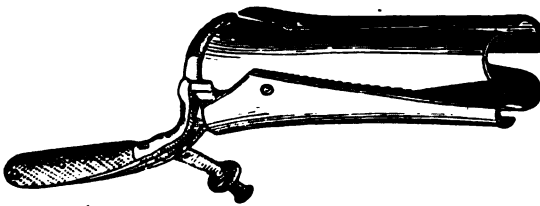
*Glass Speculum.*

FIG. 20.

*Four-bladed Speculum.*

Their passage is attended with little or no pain, and their use is rarely objected to when the lady believes it necessary, and has confidence in her medical attendant.

Sometimes it becomes necessary to examine the internal cavity of the womb, when an instrument called a *uterine sound*, is employed. It is passed through the mouth of the womb into the cavity, and should always be used with great care.

When a disease of early youth connected, either with entire a or with a scanty, painful and irre function; and if a disease of late causes, it may have been precede orrhagia or leucorrhœa.

It is strictly a disease of the either males or females, though When developed in the female, it ted with some derangement of usually an arrest of this secreti are diminished in quantity and and watery. In consequence of digestion are impaired, the person by day becomes weaker. She di easily fatigued, is not cheerful, frequently weeps without cause.

Not only is the appetite impa food is loathed, and innutritious chalk, dirt, charcoal, etc. The be constipated, the tongue is coated and there is flatulence and all th tion. The breath is frequently gas from the stomach, headache,



small doses of podophyllin with hydrastin (1-20 gr.  $\frac{1}{2}$  grain) will be found the best tonic. As a blood-maker, copper is sometimes better than iron: add ten drops of the tincture to one-half glass of water, and give teaspoonful four times a day.

The proper uterine remedy is always to be selected. If the monthly period is arrested, or the discharge scanty, should think of *pulsatilla* or *macrotys*; if painful, then *burnum*; if too profuse, prolonged or watery, the finely powdered charcoal.

In regard to the hygienic treatment, I can not do better than to quote from M. Columbat. He says: "Whatever may have brought on chlorosis, we should remove the patient from all exposure to cold and humidity; she should breathe a dry, pure and moderately warm air. A breezy situation, in a sunny exposure, is recommended. Lannel worn next the skin, with aromatic frictions, may likewise be proposed. The food must consist of roast meats, fresh eggs, farinaceous vegetables, ripe fruits, and bitter and aromatic plants; for example, succory and celery. As a drink during meals, we may employ with advantage a mixture of chalybeate water with wine. Between the epasts, the patient may allay her thirst with some refreshing, slightly acidulated drink. Nevertheless, though a careful regimen ought to be strictly observed, it is not well to be too exclusive; if we meet with great reluctance in giving up the injurious articles which the patients desire, it would be necessary at first, to respect their longings, however strange they might seem, and even to satisfy them, unless they were directed to substances evidently hurtful. We should always commence by regulating the meals, and by forbidding fruit, salad and all crude articles: we ought, moreover, to consult the digestive functions, and wholly proscribe articles well known to be indigestible.

"Whatever be the aversion to exercise felt by chlorotic persons, we ought invariably to insist upon its employment, regulating it, however, to the strength of the patient

to the charms afforded by diversities of scenery. Boating excursions, which act upon all the organs, and which unite the pleasures of exercise, that of being agreeable to the individuals of the opposite sex; and the salutary excitation in lymphatic system, by bathing, and swimming in running water, are hygienic means, which it is well to recommend to sad and melancholy women, and to persons of sensibility. Traveling can not be recommended to persons in whom there is a great acute sorrow, or by any moral affliction. The use of mineral water taken at the proper season, in prospect, incalculable advantages, not only from the action of the waters themselves, but from the society which the patients enjoy at such places the various and brilliant society, and at the same time constantly changing.

“The use of very tight corsets, and of long sleep should not be protracted beyond a certain point, and care must be taken that the clothing be not too warm nor too soft, because of the feebleness and constipation of the system, especially those in whom the above

George says: 'Hysterical patients in the petriere, are so well accustomed to precursory symptoms, as never to be alarmed when they go to bed, and are tied down. Sometimes the paroxysm ends by a calm, but the anxiety and sufferings increase. Trembling of spirits, often weeping, ensues; coldness of the limbs, vertigo; confusion, and to these may be added loss of sense and consciousness, and involuntary muscles, during which struggles are alternated with relaxation. Occasionally there is a tetanic rigidity of the trunk or back, and the body is thrown into an arch, but the limbs are more relaxed. The patient often beats her breast, tears her teeth, bites the tongue or lips, or vomits. The assistants are often struck, and the patient has vociferous epithets heaped on her head. Crying, sobbing, laughing and vomiting succeed each other. During the paroxysm she beats tumultuously, the countenance is swollen, and the breathing laborious. The continuance of from a few minutes to half an hour.



ervals, and of frequent occurrence for days, or a deep, let sleep or coma may fill up the intervals, from which nothing can arouse the patient. In some women, the paroxysms return monthly, or at the menstrual flow; in others, at variable intervals, dependent on disturbances of the physical or mental equability. It is remarkable that brightness of person, roseate hue of countenance, and general appearance of good health are not incompatible, and often attend the worst of sufferers from this affection through life, so faithfully is the nutritive function preserved amid the many and frequent storms of nervous functional derangement.

TREATMENT.—The treatment of hysteria requires a great amount of care, as the hysterical symptoms are only evidence of some other disease. In persons who seem strong and robust, some uterine disease will be found at the bottom of the trouble. In those of a feeble and delicate constitution, means will have to be used to restore the general health.

In a severe attack of hysteria, we can almost always arrest the paroxysm by the administration of equal parts of tincture of lobelia and tincture of assafœtida, in tea-spoonful doses every ten or fifteen minutes. The remedy is unpleasant, but very certain, in fact its unpleasantness is a decided advantage, the mental impression being as important as the physical. The same general plan should be adopted when the patient is feeble and anæmic, that is recommended under the head of chlorosis. But the treatment for the permanent cure should always be under the direction of a physician.

#### CHOREA—ST. VITUS' DANCE.

This affection, known commonly as *St. Vitus' Dance*, arises most generally about the age of puberty, though it sometimes appears as early as the sixth or eighth year, as late as the thirtieth, and in some cases later than

this. It is confined principally to the female sex, but in rare cases it is met with in the male. Most generally associated with some derangement of the sexual organs, and it is not unfrequently associated with hysteria. Physicians usually find it in persons of feeble health, and precocious mental development, but in some cases, in persons of opposite character, in which it may be induced by derangement of the liver and bowels, deranged secretion of the bile, and kidneys, and from close confinement or sedentary occupations.

The modern disease received its name, doubtless, from the dancing maniacs of the middle ages. The "dancing plague," or St. Vitus' Dance, commenced in Strasburg in 1418, and is thus described by Burton: "Chorus S. Viti, the lascivious dance, as Paracelsus calls it, but they that are taken with it can do nothing but dance, till they are dead or cured. It is so called for that the people were wont to go to St. Vitus for help, and, after they had danced there awhile, they were certainly freed. It is so strange to hear how long they will dance, and in what manner, over stools, forms, tables; even great-ladies and women sometimes (and yet never hurt their children) will dance so long that they can stir neither hand nor foot, but seem to be quite dead. One in red clothes they will not abide; music above all things they love; and therefore magistrates in Germany will hire musicians to play to them, and some lusty, sturdy companions to dance with them."

Another form of the dancing mania, termed St. Vitus' Dance, commenced in 1374, and extended over a greater portion of Europe. "At Cologne, the number of persons possessed amounted to more than five hundred, and at the streets are said to have been filled with eleven hundred dancers. Peasants left their plows, mechanics their workshops, housewives their domestic duties, to join in wild revels, and this rich commercial city became the scene of the most ominous disorder; secret desires

excited, and too often found opportunities for wild enjoyment; and numerous beggars, stimulated by vice and misery, availed themselves of this new complaint to gain a temporary livelihood. Girls and boys quitted their parents, and servants their masters, to amuse themselves at the dances of those possessed, and greedily imbibed the poison of mental infection. Above a hundred unmarried women were seen roving about in consecrated and unconsecrated places, and the consequences were soon perceived; gangs of idle vagabonds, who understood how to imitate to the life the gestures and convulsions of those really affected, roved from place to place, seeking maintenance and adventures, and thus, wherever they went, spreading this disgusting spasmodic disease like a plague; for, in maladies of this kind, the susceptible are infected as easily by the appearance as the reality."—*Hecker*.

This gives the origin of the name of the affection we are now considering, and though there is no similarity between the ancient and modern St. Vitus' Dance, the description just given illustrates the ease with which nervous affections of this kind may be propagated. And it is a fact, proven by numerous instances in hospital practice, that attacks of hysteria, epilepsy, and chorea, will be excited by witnessing the malady in another.

**SYMPTOMS.**—The first evidences of chorea, are occasional involuntary movements of the hands and facial muscles, and an inability to sit quietly in one position. Very frequently the fingers are quickly and involuntarily moved, and when the patient uses the hands, it is with a quick, unnatural movement. As the disease progresses, the involuntary movement becomes continuous, some part of the body being constantly in motion, and the movements are now very much exaggerated. If the patient attempts to do any thing, she seems to have but partial control over her muscles, and while they are being directed to the end intended, they are going through a succession of movements entirely independent. So great is this some-



connected with so serious a malady, almost impossible for the patient to swallow, owing to spasmodic action of the mouth and of the larynx.

As before remarked, the general debility paired previous to the commencement of this becomes more marked as it progresses. Anæmia are of common occurrence, the pulse feeble, the lips and gums pale, indigestion, flatulency, constipation, imperfect digestion, and constipation. The mind is more or less affected, sometimes spirited, and desiring solitude, the body languid and vacant. In some instances anæmia will be developed during the progress of the disease. It will be noticed that the child has no inclination to take exercise, and does not like to be out of doors, but prefers rather to get very quiet. The sensitiveness of the system is not be noticed; the sensitiveness of the system is sometimes very great.

TREATMENT.—If no particular disease is present, I should prescribe ℞ Tinc. Macrææ, ʒiiss; water, ʒij; a teaspoonful three times a day. This has proven the most successful treatment I have adopted, and if pers-

the mind will be occupied with other things. Pul-  
 lula and staphysagria are the remedies. If the monthly  
 period is arrested, irregular or scanty, the treatment  
 needed for these conditions should be adopted. If too  
 cold, we think of charcoal or ipecac. If there is impair-  
 ment of the general health, adopt the treatment named  
 for the head of chlorosis.

The use of the sponge bath, with brisk friction, once  
 a day, will frequently be of advantage. If the surface is  
 cold, full and inclined to be cool, the salt water bath  
 may be used. Or if the patient is worse in the after-  
 noon, or feverish at any time, use an inunction of quinine  
 grained, to reach two ounces, once a day, rubbing the  
 surface thoroughly.

Very much will depend upon the home management  
 of the patient. All causes of irritation must be care-  
 fully avoided, and she should take suitable out-door exer-  
 cise, be furnished with pleasant company and something  
 to occupy the mind. In some cases the disease results, in  
 both male and female, from sexual excitation and onan-

This should be looked into, and if reasonable evi-  
 dence exists, means should be employed to stop it.

### STERILITY.

Sterility is not dependent, in most cases, upon inability  
 to perform the sexual act in either sex. As we have al-  
 ready seen, the reproductive function in the female is to  
 a considerable extent independent of any sexual feeling,  
 and conception will occur when the woman has been  
 wholly passive, and has had no sensation of sexual  
 gratification.

In the female, sterility is most frequently dependent  
 upon imperfect ovulation, rather than structural wrong in  
 the reproductive canals, though this is the cause in some  
 cases. This imperfection may or may not be marked by  
 menstrual irregularities: if these are present, they serve

to point out the remedies for the case. Imperfect action may be divided into three classes: 1st. Where there is undue excitation of the ovarian nerves, and determination of blood; 2d. Where there is impaired innervation and congestion; 3d. Where there is impaired nutrition, neither of the previous conditions being present.

In the first class of cases, *macrotys* and *pulsatilla* are favorite remedies, and during the menstrual month *veratrum*. If there is undue excitement of the system with reference to this function, I would give *pulsatilla* or if there was undue nervous excitation of the system *macrotys* is a remedy when the nervous excitation is associated with determination of blood. *Veratrum* and *macrotys* are associated when the general circulation shares in the excitement. In plethoric persons general means are associated with cooling purgatives, salinaries, and a spare diet.

In the second class, we would think of *cannabis indica*, *hamamelis*, *staphysagria*, tincture of phosphorus, *ergot*, with such general restorative means as may be indicated.

In the third class of cases, we employ a general restorative treatment, as may be indicated, which will embrace the bitter tonics, iron, hypophosphites, cod oil, and animal foods. Here as elsewhere success will be to a considerable extent dependent upon a careful examination for special indications for remedies. I would not trust for success, upon one remedy, when clearly indicated, than upon the entire list of restoratives as usually used.

#### INFLAMMATION OF THE OVARIES.

Acute inflammation of the ovaries is not of very frequent occurrence, but we not unfrequently find a local inflammation, or severe irritation, with determination of blood, which gives rise to considerable distur-



**I**n acute inflammation there is pain in the side, low down, and marked tenderness on pressure. There is also considerable uneasiness when the lady is on her feet; in fact in some cases she finds it impossible to get up. There may be a chill, and generally there is considerable fever for two or three days, with a dry skin, scanty urine, and constipated bowels.

In the milder cases, the lady feels a sensation of soreness in the side, which is deep-seated and increases upon pressure. In some cases a slight swelling of the ovary is felt; movement produces pain, and when she is much on her feet, there is a sensation of dragging and soreness in the part, which is very unpleasant.

**TREATMENT.**—To half a glass of water add five drops of tincture of aconite and ten drops of tincture of macrotys, and give a teaspoonful every hour. A hot mentation or a mustard plaster may be applied over the affected part. When the acute symptoms are removed, pulsatilla may be alternated with the macrotys.

### OVARIAN DROPSY.

Sometimes the ovary becomes diseased, and, as the result, a cyst, or membranous sac, forms on it, containing fluid. There may be but one of these, or they may amount to dozens. It is supposed by the best authorities that they are developed from the graafian vesicles, which we have heretofore described as containing the human egg. They grow alike in persons of good health, and those who are feeble, in the unmarried as well as the married, and occur at all ages up to the time menstruation ceases, at the change of life.

When the growth commences, it is small, and gives but little trouble. It continually increases in size, sometimes very slowly, several years elapsing before it becomes so large as to produce difficulty; but in other cases it will

ten gallons of fluid.

The general health suffers greatly. The appetite and digestion loses flesh, and all the functions perfectly performed. Still she is, even years, a burthen to herself and

**TREATMENT.**—Medicine furnishes no known remedy having effect upon it. It has been proposed to excite or retard the growth, but it has no success. When the accumulation renders the breathing difficult, and other unpleasant symptoms, the water is removed. The only cure for the disease is the removal of the mass by a surgical operation. For this is very hazardous, but with the improvements adopted recently, about three out of four patients recently recover. This is a very great improvement. In the operation death is certain and

#### ***CANCER OF THE***

Cancer, the most terrible of all diseases of the human body is subject, very frequently

with pains in the pelvis, a leucorrhœal discharge, and other symptoms of uterine disease. When the ulceration is

FIG. 22.



*Corroding Ulcer of the Uterus.*

fully developed there is a profuse discharge of a thin, watery, ichorous fluid, and frequent attacks of severe hemorrhage. With this the health of the patient rapidly goes to decay, and she becomes thin, sallow and anæmic.

FIG. 23.



*Cauliflower Excrescence.*



the woman, she loses her appetite, and finally succumbs to the exhausting effects of the disease.

*True cancer* commences as a hard, knotty, or lobulated tumor, arising from the womb, or vagina adjacent, with a hard, knotty, or lobulated growth. There is some leucorrhoea, and a feeling of weight, uneasiness and tenderness. Occasionally there are sharp lancinating pains, lasting but a few minutes, and

FIG. 24.



3 the day. Though not absolutely painful, the female experiences an unpleasant sensation in that region of the time, which gives her considerable annoyance. The growth may slowly increase in size for months, or years, giving rise to but few more symptoms than I named. Finally ulceration commences, when the organ becomes free, and is ichorous and fetid. Now the female experiences marked lancinating pains, which sometimes so severe as to deprive her of rest. Hemorrhage also occurs occasionally, and increases the prostration.

The appetite and digestion become impaired, she loses flesh, her skin becomes sallow, and finally she sinks under the exhausting discharges and the intensity of her sufferings. In many cases, the uterus is almost eaten up, the vagina, the rectum, and the bladder, are so invaded that the entire cavity of the pelvis seems to be but one large sore, as seen in Fig. 24.

TREATMENT.—There are many cases of cancer of the uterus, which can be cured if taken in the early stage. If allowed to progress until the body of the organ and the vagina is invaded, and ulceration has commenced, there is no earthly hope for the sufferer. Bearing this in mind, never neglect these affections, but apply to some able physician who has made it a study, and ascertain what the difficulty is. Under no circumstances attempt to tamper with it yourself, or trust to cancer doctors.

### DISPLACEMENT OF THE UTERUS.

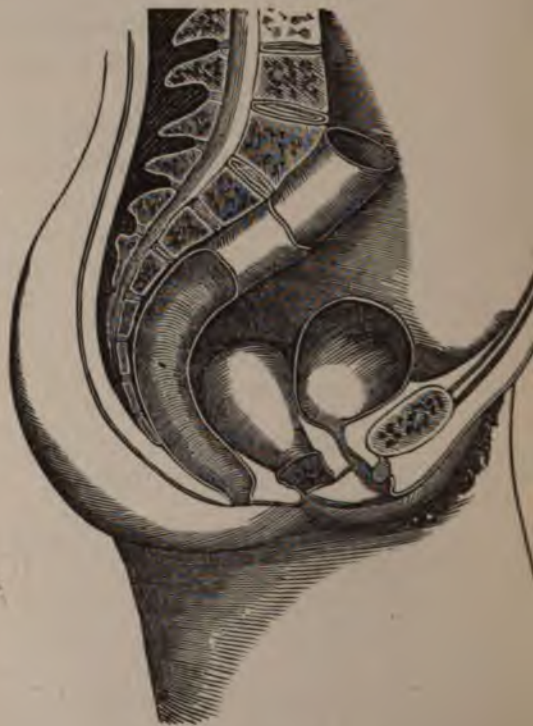
The womb, as we have already seen, is supported on the upper part of the vagina, and is freely moveable in all directions. As long as the vagina, and the muscles associated with it maintain their proper tone, there is little fear of displacement, but when they become relaxed by disease, the womb may be displaced in any direction. We recognize three forms of displacement, *prolapsus uteri*, prolapse of the womb; *anteversion*, or a displacement of

the upper part of the womb forward; and *retroversio* turning of the upper part of the womb backward.

### *PROLAPSUS UTERI.*

Falling of the womb, represented in Fig. 25, is the most frequent of these derangements, and may exist in or in a very severe degree. It always results from disease of the organs, most generally from relaxation of the vagina, produced by leucorrhœa. It may be caused by disease of the womb, which rendering it heavy, it to press down the tissues below; or it may arise

FIG. 25.



*Falling of the Womb.*



ed size of the organ after childbirth, and the of these structures that is found at that time. ptoms in this disease vary very much in dif- s. When it is but slight, unless caused by dis- e womb, the patient has a sensation of weight ng in the pelvis, which is increased by being e feet, or by walking. As it increases, these become more marked, there is weakness and back, sometimes pain in the legs, and other eeable symptoms. The bowels are usually cond the straining necessary to produce an evacu- ases the difficulty. The urinary organs are irritated, and there is more or less burning and sensations when the urine is passing.

t of the disease on the general health varies in ses. Some persons will make but little com- r general health being nearly as good as it was displacement, even in its worst forms. In digestive organs sympathize with the uterine are is disorder of the stomach, loss of appetite, distension of the abdomen, headache, etc.

NT.—In the treatment of falling of the womb, means will have to be employed as in vaginal , for in a majority of cases, this will be found

FIG. 26.



*Perineal Supporter.*

salt-water sponge bath to the lower pelvis, and thighs, will be found to be beneficial. This bath should be accompanied with kneading the muscles of the abdomen and the outlet of the pelvis. This increases the circulation of these parts, and renders them more healthy and the womb up.

For a temporary support, while the patient is in the recumbent position, I prefer the perineal supporter, shown in Figs. 26 and 27. This consists of a wide bandage or jacket, made of drilling, and furnished with whalebones to keep it in position. It is cut like a corset, lacing in front, and will give a constant and steady support to the anterior portion of the abdomen. F

FIG. 27.

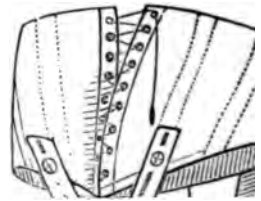
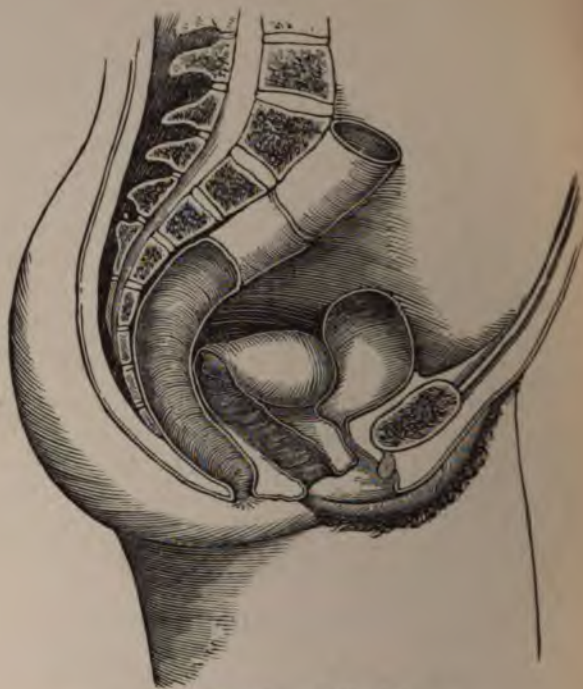


FIG. 28.

*Anteversion of the Uterus.*

the bladder is manifest, but, on attempting it, no urine can be passed; or it is passed in drops, with much suffering, and medical attendance will have to be obtained immediately. It would be useless to describe the treatment, as it not unfrequently requires all the skill and efforts of the most experienced to rectify the difficulty.

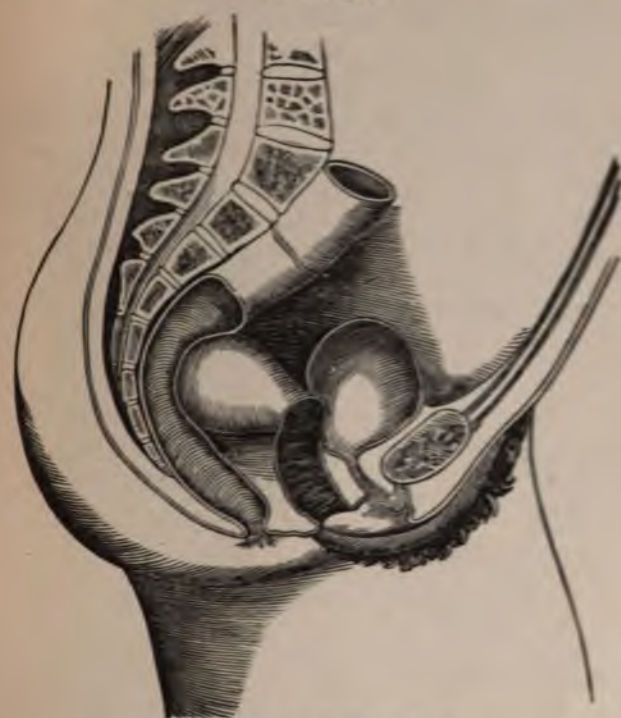
#### **RETROVERSION OF THE UTERUS.**

This displacement is the opposite of anteversion, the upper portion of the womb being thrown backward against the rectum, as seen in Fig. 29. The disease usually comes on slowly, sometimes from too great distension of the bladder, which presses the womb backward, and



is increased by accumulations of feces above it, and by straining to evacuate the bowels and bladder, both of which are difficult.

Fig. 29.



*Retroversion of the Uterus*

In retroversion, as in other morbid conditions and diseases of the womb, the accompanying sympathetic derangements or symptoms are, when well marked, more or less perfect imitations of the derangements attending pregnancy. Dyspeptic and hysterical symptoms are sometimes present, with local neuralgic pains in the breasts, or some portion of the back, or in the region of the pelvis. The displaced position of the womb often gives rise to mechanical irritations, and symptoms of the same kind as if the organ was morbidly enlarged.

Constipation and impeded passage of the stool are frequent results, caused by the compression of the bowel by the displaced womb. Occasionally the bowel is irritated and there is discharged from time to time quantities of a mucus-like matter, resembling flux to some extent. The bladder frequently suffers, there being generally more or less difficulty in passing water; with burning and other unpleasant sensations, though sometimes she finds herself unable to hold her water, and it constantly dribbles away.

Symptoms of weight and tension, and bearing down in the region of the uterus and rectum, are of very frequent occurrence, and occasion a great amount of suffering. They are almost always increased by being on the feet, by walking, or even by riding in a carriage, and they are especially marked at the monthly periods.

TREATMENT.—The treatment of these cases is quite difficult, and beyond domestic resources. A skillful physician should be consulted, who will first replace the prolapsed womb, and then advise such measures as will prevent its recurrence.

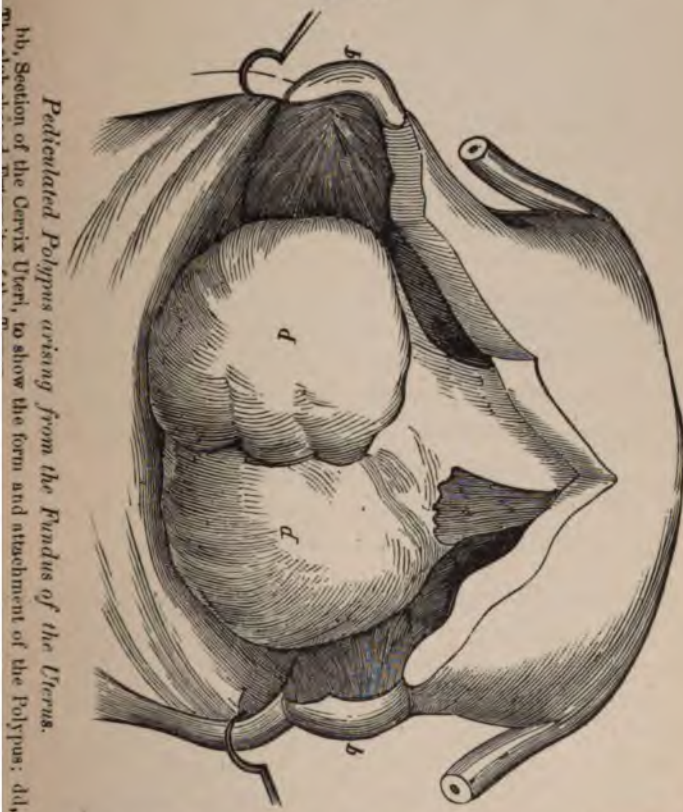
#### *POLYPUS OF THE UTERUS.*

SYMPTOMS.—In an early stage of the growth of the tumors, the symptoms are very obscure, but when more advanced they assume a formidable and dangerous character. In many instances, the first symptoms that will be noticed, are similar to those of the fibrous tumor, such as a feeling of weight in the pelvis, bearing down, pain in the loins, etc., which are especially aggravated during the menstrual periods. The menstrual function is usually first affected; it becomes more profuse and protracted, and occurs at irregular intervals. At the commencement of the growth there is usually more or less leucorrhœa, sometimes the discharge is principally the normal mucus of the parts, at others it is fetid and bloody. These symptoms may continue for a longer or shorter time, owing

the growth of the polypus, and constitutional peculiarities of the patient.

As the growth advances in size, and in many cases where it is still very small, the hemorrhages become more frequent, and increased in quantity. The loss of blood is

FIG. 30.



*Pediculated Polypus arising from the Fundus of the Uterus.*  
 hb, Section of the Cervix Uteri, to show the form and attachment of the Polypus: dd,

sometimes so profuse as to give the patient a blanched and bloodless appearance, and to greatly impair the general health. The appetite becomes impaired, the bowels relaxed, cedema of the extremities occurs, etc., marking an extreme state of debility from loss of blood. Another prominent symptom in polypus of the uterus is nausea



and frequent vomiting; this is probably caused, in part, by the loss of blood, and partly by the dragging down of the polypus and the expulsive efforts of the uterus.

The presence of a small polypus does not prevent conception, and even utero-gestation may go on to the full period. This, however, is not common, the irregularity of the menstrual function caused by the tumor generally proving a cause of sterility, and even should conception occur, an abortion will most frequently take place during some period of gestation.

The presence of a polypus sometimes proves a cause of difficult labor, the tumor being extruded before the child and still attached to the uterus, prevents its passage, and the tumor may require to be removed before the child can be born. It may likewise be the cause of subsequent danger, by preventing the contraction of the uterus necessary to close the open mouths of the uterine vessels and by this means give rise to dangerous, if not fatal flooding. Metritis has also been known to result, when a polypus was retained in the cavity of the uterus after delivery.

#### *DISEASES OF THE BREASTS.*

The female breast is a highly organized gland, abundantly supplied with nerves and blood vessels, and adapted to furnish the appropriate nutriment for the child in the form of milk. It is very delicate in its organization, and hence liable to disease, and is very closely connected to the uterine organs by sympathy. Thus we notice, that with the development of the womb and ovaries at puberty, the breasts are also developed, and with the changes in the condition of the uterus during pregnancy the breasts also sympathize. This intimate sympathy is best illustrated by the contraction of the womb after childbirth, on applying the child to the breast. Irritation of the breasts will also cause sexual excitement.

and occasionally the menstrual flow may be brought on in this way.

**CARE OF THE BREASTS WHILE NURSING.**—Though these sensitive glands should be well protected from cold or injury at all times, this becomes more necessary during nursing, as they now receive an abundant supply of blood, and are more liable to disease. The breasts should never be pressed with tight lacing, and especially with whalebone in dresses or corsets. Many a woman may date the commencement of malignant disease, which will finally destroy her life, from these causes. They should likewise be well protected against the action of cold, and if there is a tendency to *caking* of the breast, or *ague* in it, a couple of thicknesses of soft flannel may be constantly worn with advantage.

**THE NIPPLE.**—The nipple is the most sensitive part of the breast, and, as we have already seen, it occasionally causes a great amount of suffering from soreness when nursing. In a majority of cases, the skin of the nipple may be hardened prior to labor, by washing it for some weeks with a decoction of equal parts of yellow dock and dogwood. At other times the use of cold water will be all that is necessary. The treatment of sore nipples has been already given.

**AGUE IN THE BREASTS.**—Some mothers are very much annoyed with what is termed *ague* in the breast, whenever they are exposed to cold, from sudden changes of temperature, or even from washing the hands in cold water. The breasts become hard, full and painful; there are chilly sensations, followed by some fever, and various disagreeable feelings. The attacks sometimes recur frequently, and are a source of great annoyance.

The best remedy for this case is the *phytolacca*, with *aconite* if there is fever; ten drops of the first and five of the second to half a glass of water; a teaspoonful every hour. If the breasts are painful, have them rubbed with warm oil or lard, and the milk well drawn. There

is only one plan by which this condition can be avoided and that is by the daily use of a cold sponge bath. Commence with tepid water, getting it cooler day by day until it can be used cold. It is troublesome, and sometimes not very pleasant, but it will effectually prevent the person's taking cold, and is thus useful in other cases than this.

**CAKING OF THE BREASTS.**—The breasts not unfrequently become hard, in a portion of the gland, seeming as if there was a well defined tumor of the part. It is more or less painful, but always giving rise to a disagreeable and uneasy sensation. The entire breast is somewhat distended, and the child draws the milk with difficulty, and does not seem to remove it all. Sometimes this is the first symptom of inflammation.

Caking of the breasts is usually removed by gentle rubbings with warm lard, and covering them well with flannel, the milk being thoroughly drawn out. At other times the addition of camphor to lard increases its efficacy, especially if there is a very free flow of milk. The tincture of arnica one part, to lard three parts, makes a very efficient application.

**INFLAMMATION OF THE BREASTS.**—Inflammation of the breasts most usually results from cold, injury, or a failure to keep the milk well drawn out. Where the breasts have been once inflamed, especially if abscesses have formed in them, inflammation is very liable to recur at each labor. In these cases we sometimes find it necessary to dry the milk up in the affected breast immediately. This can almost always be done by frequently bathing with warm lard and camphor.

Inflammation of the breast usually commences by the formation of a cake in it, which gradually increases in size, and becomes tender and painful. Several days then elapse, in some cases, before the disease is fully developed. It gradually increases in size, becomes harder, and is the seat of a constant, deep-seated, aching pain. After a time



t becomes unnaturally warm, there is too much blood sent to it, the milk is drawn with much difficulty, and is scanty, and there is great soreness, with more or less sharp lancinating pain. As it continues, the pain becomes so severe that she can not obtain rest either day or night; the general health is more or less affected, with usually some fever. Finally, suppuration occurs, the matter being situated in the structure of the gland, sometimes deep, at others near the surface. The pain is now very intense, usually throbbing, occasionally attended with chills. The matter gradually works its way to the surface, and discharges through one or more openings. From one to three weeks is usually occupied in the progress of the disease before the breast breaks, and there may be but one, or several abscesses.

**TREATMENT.**—The main object in treatment at first, is to check the inflammation, and prevent the formation of an abscess. Many plans have been recommended, but I prefer the one agent, *phytolacca*, which usually answers the purpose, if used in the early stage. Add ten or twenty drops to half a glass of water, and give a teaspoonful every two hours. If the mother is feverish, the aconite may be alternated with this. Apply the *phytolacca* as a local application, one part to three or four of water. Let the breast be well supported, either by the clothing or by a handkerchief round the neck like a sling; or have a pocket made to fit the breast, with a strap to support it, around the body or from the neck.

If the means above named do not seem to answer, obtain from the nearest drug-store, equal parts of extract of belladonna and lard, mixed; spread it on soft cotton cloth as a plaster, and apply to the inflamed part. This should be changed three or four times in the course of twenty-four hours, and if the weather is cool, it should be warmed before applying to the breast. Be very careful when the child is nursing, that it does not get any of the plaster in its mouth, as it is poisonous. Instead of

this, take a single thickness of tobacco leaf, lay it on a flannel cloth and moisten it with warm water, and immediately apply to the breast. The Mayer's ointment No. 85, is also an excellent remedy when the inflammation progresses slowly.

If these means do not arrest the progress of the disease apply poultices to favor suppuration and have the matter discharged as soon as possible. Slippery elm, flaxseed bread and milk and many other articles, form good poultices, and it makes but little difference which is chosen. If it is an object to draw it to a head speedily, I have found an application of wool saturated with lard to be the best application, though it is very painful.

If properly managed in the first stage, all the symptoms of inflammation will rapidly subside when the abscess opens and in a few days it will heal up kindly. Sometimes from want of care the abscess does not heal up kindly, and numerous fistulous pipes keep discharging, and the breast continues hard, tender, and more or less painful. In the milder cases, if proper attention is paid to drawing the breast, the milk need not be lost; but when the inflammation is severe the milk will have to be dried up. In no case should the child be permitted to nurse the diseased breast, until it is entirely well.

**TUMORS OF THE BREAST.**—The breast is a very common seat of tumors, both benign and malignant, there being probably no structure of the body where they occur so frequently. This is no doubt owing to the delicacy of their structure, but more to their exposed position. It is impossible for the inexperienced to determine whether a tumor of the breast is malignant or not, and as very much depends upon ascertaining this fact before it has made much progress, a physician should be immediately consulted.

Many of these growths give rise to but little trouble until they become quite large, though usually there is an uncomfortable feeling of weight and uneasiness. We designate no less than eight different kinds of tumors

One of which may be dispersed by appropriate treatment, while others will require an operation for their removal. If necessary, the earlier this is performed the better, as a growth the size of a common marble is much easier removed than one the size of a large apple, or as we find in some cases, the size of a child's head.

**CANCER OF THE BREAST.**—The breast is a very frequent seat of cancer, in fact it occurs here more frequently than in any other portion of the body. It may make its appearance at any age, and alike in the married and single, though we find it most frequently between the ages of thirty-five and fifty years. The cause of cancer is not known, and neither do we know why it should attack the breast more frequently than other parts of the body. In all probability, it depends upon their more exposed condition, and the rapid and great changes which take place in their condition during nursing.

Cancer usually commences as a small, hard tumor, which is freely movable under the skin, though it may be deep seated or superficial. If care is used in its examination, a peculiar knotty hardness will be apparent, and is in many cases characteristic of the disease. There is but little suffering at first, and sometimes for days the woman will have forgotten that there is anything wrong with the breast. But occasionally there is a sharp stinging sensation as if something was within the breast that should be removed. Occasionally there are cases in which it is quite painful from the commencement.

It is observed to gradually increase in size, sometimes pretty rapidly, at others very slowly, and there is a corresponding increase in the unpleasant symptoms. When it has attained the size of a small hen's egg, it will be observed that the nipple is being drawn in; and when it has attained twice this size, the nipple will in a majority of cases, be level with the breast, or sometimes sunken in. This is one of the most characteristic features of cancer, and persons need have no doubt of the character of the



disease, when they observe this symptom, as it will not fail to be cancer in one out of one hundred cases.

It usually commences to be very troublesome about this time, though there are many cases in which the patient suffers very little. It has now become attached to the skin, and to some little extent to the structures below it, and there is a bluish red discoloration of the surface over it. As it increases in size, its progress is more rapid. Ulceration commences at one or two points over the tumor, and exquisitely sharp, lancinating pains shoot from these through the mass. The discharge from these ulcers varies greatly in quantity and character, frequently being nothing but a bloody matter. The ulcer increases in extent until it involves a considerable part of the surface of the breast. Its edges are hard and uneven, while its surface presents an unnaturally red and knotty appearance.

Sometimes a growth springs from the ulcerated surface and projects some distance beyond the sound skin. It is very red, and looks very much like a bunch of strawberries, and bleeds upon slight pressure. With the commencement of ulceration, the glands under the arm become enlarged, and in a longer or shorter time the lymphatic system is impregnated with the seeds of the disease.

Now the suffering becomes intense, sharp, lancinating pains pass through the breast, and into the shoulder and back. The sensations are sometimes compared to gnawing of an animal, and truly, it resembles to some extent such destruction. The entire breast becomes involved in the disease, as well as the structures adjacent, and the patient suffers a hundred deaths before death at last comes to her relief.

TREATMENT.—Cancer of the breast *can be cured*, if proper treatment be adopted before the constitution becomes affected. After it has formed attachments to deep tissues, and the lymphatic glands are engorged with cancerous material, there is no hope. While still small is a very easy matter, to one who understands it, and

cases the cancerous mass can be removed without greatest pain, and no danger. But if allowed to increase in size, the danger of its return is proportionately increased. In some cases the knife is used for its removal, but if depended on without the employment of proper remedies afterward, it is certain to fail. My experience does not prove that it is occasionally the easiest method of getting rid of the bulk of a large cancer, but in all cases I would make an open sore, and apply remedies to trace out all the diseased structures afterward. Caustics should never be used in these cases, as they rarely affect a cure, and, frequently, cause the tumor to grow more rapidly, produce adhesions to take place, that will prevent the use of other means from being of benefit.

As this was a disease proper for domestic treatment, I will not give the remedies here, but as it is not, and the remedies require great skill in their application, I would advise that a competent physician be selected. It is a matter of life or death with the sufferer, and it is well to use sound discretion.

It may be well to qualify the statement, "*can be cured*," by saying, that though the disease is removed, and the patient heals soundly, it is pretty sure to return in the same or in internal organs, in from one to five years. It is the rare case that the cure is permanent.

## PART III.

### CARE AND MANAGEMENT OF CHILDREN.

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The young of the human being is the most helpless of all created things, and entirely dependent upon its parents for food, clothing and protection. While the young animals soon have free locomotion, and all the instincts of self-preservation, the child possesses but the one faculty, that of taking its food when actually placed in its mouth. Thus relying entirely on the mother for that care and protection essential to its life, and having so delicate an organization that but slight changes produce injurious results, it becomes important to parents to know what experience teaches with regard to the proper management of children. It is true, that a love of offspring is implanted in the breast of every mother, and she desires to do all that will conduce to its comfort and welfare. Still this instinct will not answer in the place of knowledge, and every woman should learn all that pertains to the care and management of children.

In this part I will quote freely from a most excellent little work by Mrs. Barwell, of Scotland, on the treatment of children. I do this because it is written by an educated mother to mothers, and will thus have more weight. My own portion will be that pertaining to the diseases and medical treatment of children.



**THE INFANT BEFORE AND IMMEDIATELY AFTER BIRTH.**

The first and most important truth, on this subject, to be impressed on mothers, is, *that the constitution of their offspring depends on natural circumstances, many of which are under their own control.*

A child takes its general character from its parents. If these be healthy persons, the child will also, in all probability, be healthy, provided that no deranging circumstance shall take place before the birth of the infant. If, on the contrary, the parents are unhealthy, the child will so probably be unhealthy. These principles apply to the mental part of our organization, as well as to all the rest.

Supposing healthy parents, still the infant may prove very much the reverse, if the condition and circumstances of the mother during pregnancy be not favorable. It therefore becomes important to inquire what is the condition, and what are the circumstances of the mother during pregnancy, which are calculated to affect her progeny for good or evil?

The maintenance of her own health during this period of the first importance, as even a woman usually healthy, may be in such a deranged state during pregnancy, as will operate greatly to the detriment of the infant. For the maintenance of health in ordinary circumstances, few people have any other guide than experience and their own share of good sense; and these are guides not to be despised. It is to be wished, however, that all whose circumstances will allow of it, should study the organization and functions of the human frame, as, without that knowledge, there can be no certain or constant attention to the rules of health, while, with it, attention to those rules becomes comparatively simple.

A young pregnant woman, finding herself perhaps for the first time in her life called upon to pay particular atten-

tion to the laws of health, will probably experience some difficulty in subjecting herself to the guidance of those laws, because she has habits to overcome, perhaps some pleasures to forego; but she will have aid and stimulus of maternal love, which, from the moment she becomes conscious she is to be a mother, mysteriously but powerfully possesses her. This instinctive affection leads to good or to evil, according as the mother is informed or ignorant of the conditions which govern the health of the parent and child during pregnancy. If informed, the mental and physical powers are directed aright; if ignorant, the nervous sensibility prompts to a state of undefined fears, while physical evils are produced or increased by mistaken treatment.

*That a female in this condition should maintain a clear mind, is, above all things, desirable.* And for this end it is in the very first place necessary that she should be taught to regard her condition in its true light, as one perfectly natural, and for which all fitting arrangements have been made by nature. The sickness, nausea, and disordered condition of stomach, which often attend pregnancy, and also the anticipation of the pains of labor, are apt to press a different feeling. But with all such impressions a right-minded woman will successfully contend, if she is truly informed on the subject. So far from pregnancy being a diseased condition of the system, it is one in which a pre-existing disease is often overcome, at least temporarily (though the contrary is also sometimes the case), during which epidemics are often resisted, when other persons not more susceptible fall before them. Nature, indeed, seems to have aimed at making the system unusually strong at this period, as if to favor as much as possible an object so important as the increase of the numbers of the species.

Nausea is most frequently experienced by women of a nervous and excitable temperament, or of what are called "strong feelings," and by those more particularly

little to occupy them. Those, also, who proceed in the vulgar error of eating heartily, "in order to pump up their strength," are peculiarly liable to this dis-easing visitation. There is, however, a certain tendency in many cases, merely as a result of that increased tement of the womb, which unavoidably takes place in pregnancy, in consequence of that organ requiring receiving more blood at that period than at other times. In all cases, nausea may be regarded as a means provided by nature for keeping down the quantity of circulating fluids at a proper amount, and thereby preventing a fullness which might, in such circumstances, produce fatal effects.

With respect to labor itself, an intelligent woman will find no difficulty, we think, in regarding it under the following considerations: It certainly is a process which, even in very extraordinary circumstances, can not take place without considerable pain. Some, we are aware, allege the reverse. They allege that, if the females of the human race were to live in a perfectly natural manner, there would be no pain or difficulty in labor. That there should be any natural process from which pain is inseparable, seems also to them a kind of impeachment of Divine wisdom. We believe, nevertheless, that pain, in due measure, greater or less, is scarcely avoidable in the labor of almost any female creature, and that to acknowledge such being the case, is no detraction from Almighty Omnipotence.

Contemplated under such considerations, the pain of labor will be looked forward to, we think, with firmness without alarm. It will be regarded *only as pain*—a pain imposed with a design, upon the whole, beneficent—short in duration, and which there is much to alleviate—though, moreover, in the effect which it seems to have of the more endearing the infant which has been its innocent and unconscious cause, fully repays itself in the tenderest feelings.



*For the preservation of serenity of mind, an exemption from the severer cares of life is also desirable.* In many cases this may be difficult of attainment, but it is nevertheless a point of so great importance, that every reasonable exertion and sacrifice should be made, in order to be able to be about. We do not mean that a pregnant female should be set aside from ordinary duties, or that she should be allowed to spend her time in thoughtless languor, but only demand that she should be subjected to no excitement or event which will give her great excitement. A sudden alarm about the illness of a near relative—grief for his loss—pain of severe worldly calamity—torment from the conduct of individuals in whom she is interested—surprises, frights, or excesses of joy—finally, those rarer disturbances which a time of public danger occasions—such are the circumstances which are apt to have a bad effect on females about to become mothers. They also, as a necessary consequence, affect the being about to be brought into the world, producing in some instances a general weakness of constitution, in others only a certain damage of the nervous organization. Many of the eccentricities which have caused the world most to wonder, or worked it the greatest woes, have been the consequence of very simple circumstances visiting pregnant females with undue excitement.

*The diet of females during this period ought to be simple.* When unenlightened on this subject, they are apt to fall into errors which may greatly affect their offspring. Over-pampering, indolence, and generally self-indulgence in the use of life, is often practiced, and many think it necessary to gratify every casual desire that can arise in an unregulated manner, ought to be gratified. A sensible woman, sincerely anxious for the good of the being about to enter the world, will be anxious to avoid such errors.

The tendency to nausea and vomiting, already alluded to, may be interpreted as the voice of nature proclaiming that, in the condition of pregnancy, less instead of more food than usual is required. The perfection of the

does not depend immediately on the quantity of nutriment taken by the mother; it depends on the supply of sound and healthy fluids, for which end not merely judicious nutriment, but a healthy action of the whole of the functions of the body is requisite. Over-eating, or eating too nicely, is inconsistent with that healthy action, and is therefore to be avoided. Food too highly concentrated, and of too stimulating a character is unsuitable, as also are gruel and weak broths, for these are not easy of digestion. The mother ought not to depart from her accustomed diet, whatever that may be, provided experience has shown that it is suitable for her constitution and habits of life. Animal food is not to be systematically avoided. Where the digestion is weak, the circulation languid, and the muscular frame small, flaccid and puny, this kind of food, of a tender fibre, taken in small quantities at a time and well masticated, will lighten present suffering and prevent future evil. The total want of this kind of food tends to make the milk weak and of bad quality. Farinaceous and vegetable food, with a moderate portion of animal food, and of diluting fluids, may be generally recommended. Stimulating liquors are beneficial in very few instances. We present all of these maxims on diet with some degree of hesitation, for almost every particular case requires a treatment more or less peculiar to itself.

*Regular and gentle exercise should be taken every day in the open air if possible.* This is one of the principal requisites for keeping up that healthy action of the system, on which the supply of sound fluids depends. When the mother pursues a contrary course, whether from indolence or from positive inability of body, her system necessarily becomes much relaxed, its tone is abated, and the child partakes of the same character. Regard must of course be paid to peculiarities in the general condition of the mother. If she be very weak, it may be injurious for her to take much exercise, or to begin to take it abruptly; but still the great importance of exercise to her health and that of her child

should be kept in view, and, if at all practicable or prudent, exercise should be indulged in. With the health is a duty which they will not with impunity neglect. Exercise should be practiced from the first, and up to the very end. As one great inducement to it, they may be assured that by restricting an undue and undesirable growth of child, it tends materially to lessen their distresses at a particularly trying moment.

*The ordinary occupations of life should be as little as possible interrupted.* It may be necessary from the condition of the expectant mother, that she should be kept quiet; it often, indeed, happens that from peculiar circumstances, females are enjoined by their medical attendants to lie almost continually on a sofa. But these are unfortunate cases. Where there is a fair measure of health, to have both mind and body employed is decidedly beneficial, and a female should be glad when it is in her power to enjoy this advantage. Severe bodily labor is of course to be avoided, as too trying to the system, and apt to produce accidents, and great mental tasks are equally undesirable, as tending to create too much excitement. In the every-day matters of life, the domestic arrangements which make home respectable and attractive, the benevolent and affectionate sentiments exercised in kindness and service toward others, the charity which acts rather than gives, the daily walks enlivened by conversation or observation, the cultivation of the intellect by reading, the preparations for the maternal office—all these are suitable means of keeping mind and body in that state of moderate activity which is required, and such are ever at command. This moderate occupation is useful in two ways. It tends to sustain that cheerfulness and serenity of mind which we have already been spoken of as so desirable during pregnancy. It is also useful as a means of keeping off and counteracting a certain tendency to nervous excitement which is sometimes experienced by pregnant females, which manifests itself in irritability and impatience,



poudency, and listless indifference. When such excitement is first felt approaching, it should be met by a vigorous determination not to yield to it, and active employments will then be found extremely serviceable. Females often act otherwise, and under the notion that such nervous excitement being natural, it ought to be patiently submitted to, they resign themselves to it, and expect that others should treat it with charitable indulgence. But in reality, it may be successfully contended with in most instances, and it is the duty of every one thus to contend with it.

It may here be remarked, that minds being constituted differently, all do not find that the same duties and objects serve equally well for sustaining their cheerfulness and keeping off the tendency to nervous excitement. The exercise which is beneficial to one may be irksome to another; but the main object in all cases is the same, though reached by different paths. Worldly circumstances are also various; it is therefore impossible to lay down rules for the employment of mind and body, it is easier to point out what is to be avoided, namely, excess, whether it regards ease or exercise, food or sleep, and the frequenting places of public resort, and close private apartments where the air is heated and vitiated. In every situation of life there are trials of temper, alternations of hope and fear, joy and sorrow, pleasure and displeasure; to regulate these emotions, to restrain them within such bounds that they shall neither over excite nor exhaust the nervous energy, nor interrupt the healthy action of the bodily functions, is within the power of every human being, and is a discipline agreeing equally with the precepts of the moralist and the prescription of the physician.

As yet, we have only considered those circumstances which affect the human being before birth, we are now to treat of those which conduce to his weal after he has entered the world.

The child should be placed at the breast within from

twelve to eighteen hours after birth. When this is delayed longer, the breasts are apt to be distended with milk, and the act of suckling is then attended with pain and difficulty. In such circumstances, the overloaded vessels being imperfectly emptied, inflammation is excited, and a milk abscess may ensue. The milk left too long in the breast, if afterward sucked, occasions pain and disorder to the bowels of the infant, or is rejected from its stomach. In the latter event, the nourishment is insufficient, and seriously affecting the permanent health of the child may be experienced. It occasionally happens that the flow of milk in the first few days, is greater than the child can take. If it do not flow away, fomentations of warm water may be applied, which is a better remedy than rubbing the breasts with spirits; for they are rendered tender by distension, that they easily bruise. When the abundance of milk is troublesome, the mother should drink little, and take opening medicine.

On recovering from confinement, and resuming the usual dress, there can not be too much caution in securing perfect liberty for the breasts. The waist of the dress should be loose and long. The low, stooping position, in which a woman sits while suckling, encourages an enlargement of the abdomen, if not guarded against; and injury to the figure, and untidy appearance, have been urged as reasons why mothers should not also be negligent. Such consequences are by no means necessary. The dress may be as neatly arranged as at other times, and the figure has only to be protected, and such exercise taken as will keep down the tendency to enlargement of the abdomen. There can be no other permanent increase unfavorable to beauty or utility. It sometimes happens that the nipple is small, or turned into the breast; and a newborn infant has scarcely sufficient strength to draw it. In such cases it saves much pain to have the breast drawn out by another child of about six or eight weeks old. The mechanical means often adopted are very apt to cause

breasts. It is, however, desirable that the infant should get the first milk, as this has the effect of clearing the bowels of the meconium, or first evacuations, and generally supersedes the necessity of a purgative. A young mother is generally awkward in holding an infant: but a little fortitude and perseverance will overcome the difficulty.

Where there is a decided inability to suckle which may usually be decided before delivery, and a wet-nurse is to be engaged, there are two or three points requiring attention. The nurse should be, as nearly as possible, of the same age as the mother, because there is a relation between the constitution of a mother and her newly born babe, and, the more nearly the hired nurse resembles the mother in constitutional peculiarities, the more suitable will she be for rearing that particular child. A hired nurse should also have been confined about the same time as the mother, because the milk has a different character at different stages of nursing, being thin at first, and gradually growing stronger, so that, if a newly born babe be put to the milk of a woman any considerable time confined, it gets too strong or heavy milk, and is thereby sensibly injured.

The diet of a person engaged in nursing should be nutritious, but not heavy. What agrees and disagrees in ordinary circumstances, will then have the same effect. Diet must also have reference to constitution. A person of full, robust habit, will require less nutriment, and will suckle better upon diluting drinks, such as tea, toast and water, gruel, etc., while a delicate person of languid circulation will need more animal food, milk, beer, perhaps ale or porter. Wine is not so desirable; it is stimulating rather than nutritious; though, mixed with water, it may in some cases agree better than beer.

The *quality* of the milk chiefly depends upon habits of mind and body; the *quantity* varies in different persons, in correspondence with age, constitution, etc. In some constitutions the food goes more into nourishment, and less



into milk, than in others. In those cases, the less food required. In other constitutions the aliment goes more into milk and less into nourishment; and a woman so characterized requires to be comparatively well fed. It is necessary for a nurse who has a tendency to flatulency, to avoid viands apt to induce that ailment, not only on her own account, but that of her charge, for the same and other disordered functions tell upon an infant immediately, through the medium of the milk. Where a nurse is actually affected by flatulency, her taking a little peppered ginger or carbonate of soda, makes her milk agree better with the digestive powers of the child.

A mother who is also a nurse, has a double claim upon her, and a double motive to stimulate her in the observance of the laws which govern health. The immediate welfare of herself is indissolubly united with that of her child; every transgression on her part inflicts suffering on her infant, who is the helpless victim of her error. And not only so: unhealthy, ailing children, bring great afflictions upon a family. In the case of affluent persons they bring disappointed hopes, wounded pride, and sorrowing affections. A father is naturally disposed to regard his offspring with pride, exultation, and hope; can he do this when he sees ailing, fretful beings, incapable of enjoying or benefiting by the advantages which his abundance and affection procure? In the case of poor people, the sorrowing affections are aggravated by the expense, the household discomfort entailed by illness, and the prospect of the sickly creatures around being hereafter incapable of earning their maintenance at all, or doing so under the pressure of bodily and mental suffering. The faults of the mother may inflict these disappointments and difficulties upon the father. Her responsibilities are great and numerous. Yet there fortunately is a present happiness connected with the maternal duty arising out of mere instinct, which lightens the burden beside a continual and increasing reward springing

and experienced by the higher sentiments of her  
e.

### FOOD.

a milk of the mother is to be regarded as the most  
pate food which can be given to a newly born  
e. Where a mother, therefore, has a sufficiency of  
and is otherwise able to perform the duty, she is  
upon by the voice of nature to undertake it. It is  
7 which may be attended with some degree of incon-  
ce; but this is amply compensated in the delightful  
gs which are developed in the course of the nursing  
l, and the consciousness of performing a duty of the  
st importance to one in whom she feels the deepest  
st.

en the mother is unable to nurse, the next best  
e is to engage a substitute, selecting one as healthy,  
r in age to the mother, and as nearly the same time  
ed, as may be obtained. It should be regarded as a  
l duty by parents to provide a wet-nurse, if their  
stances will at all permit, for by no other means can  
be tolerably assured of the welfare of their child.  
e next alternative of bringing up a child by the hand,  
ing it cows' milk and soft food, there is danger of  
physical evil. The truth is, no kind of food but  
other's milk, or that of a well chosen nurse, assim-  
with the digestive organs of an infant in the first  
onths of its existence. The evil of the mere unsuit-  
ss of other food is aggravated when it chanches  
o much is given. While a superabundance of milk  
ces no harm, from its so easily being discharged  
the stomach, food can not be got up without strain-  
nd without irritating the stomach. Children that  
y nursed vomit less frequently than those who are  
d; but this is no proof that the food agrees; diges-  
difficult, the superabundant food ferments, becomes  
acid, passes into the bowels in an improper state

irritates the mucous membrane, and occasions the loose green, sour-smelling stools, indicative of what is termed gripes. It is a common practice to give an infant a purgative a few hours after its birth, and to feed it until the mother has milk for it. Both these practices are contrary to nature; the first milk causes a free, natural discharge from the bowels, very different from the effect of medicine, which irritates and enfeebles the alimentary canal, establishing disorders which carry off a delicate child, and cause a robust one much suffering. Whether an infant be wet or dry nursed, its stomach should be left at rest for several hours after birth; if there be crying and uneasiness, they are likely to arise from other causes besides hunger. The sudden change of situation, exposure to the dress with which it is necessarily encumbered, and the manner in which it is handled, are sufficient to account for uneasiness. Warmth, quiet and repose afford ample solacement for the first few hours of life.

When there is unusual delay in the flow of the mother's milk, or a difficulty in getting the child to suck, a small quantity of ass's or diluted cow's milk will save the infant from exhaustion; but on no account should farinaceous food (that is, food composed of any kind of flour from grain), be given. The greatest safety will be found in the breast; there are few situations where it would not be possible to find a mother willing and able to suckle the new-born infant until its natural food is ready. That this fluid is the proper aliment for an infant, is shown by its having no teeth, and by the muscles of the mouth and jaws being too feeble for mastication, while the structure of the whole frame is lymphatic, incapable of voluntary motion, and easily excited. If a child is to be brought up by the hand, cow's milk, skimmed, or diluted one-third with boiled water, and slightly sweetened, is the only nourishment that can be safely taken, unless ass's or goat's milk can be procured, these being more nearly allied to the milk of a woman. When we depart from the inten-



ons of nature, we always encounter difficulties. With me children, cow's milk will not agree at all, or only when mixed with oatmeal gruel; sometimes the latter one suits best. Again, in cases of relaxed bowels (a common disorder with dry-nursed children), isinglass, highly baked flour, or arrowroot, mixed very thin with milk, are the best diets; occasionally weak animal broths are most suitable. All irregularities are better counteracted by diet than by medicine. The application of a flannel bandage to the lower part of the body is judicious in bowel complaints. A warm bath soothes irritation and allays pain. The state of the bowels indicates the condition of the digestion. Green, watery, slimy, or sour-smelling motions are bad, as are streaky dark stools. Two or three motions in twenty-four hours are sufficient; less may be enough where there is no pain or symptom of disorder. Cold produces relaxation. The use of the warm bath is in most cases highly beneficial. The facility with which it is prepared for an infant, renders it an easy remedy; a washing tub, and a pailful of boiling water, will be sufficient when lowered to ninety-six or ninety-eight degrees Fahrenheit's thermometer. There are few disorders which a bath will not alleviate. There is an opinion that it exhausts. Like all other things, its use requires discretion. A very young infant should not remain in it more than six or eight minutes, and it should not go in daily. The head and loins should be supported by the hands of the nurse, so that the whole person may be at ease and entirely immersed, except the head and face; when very young, an infant is rarely alarmed by the water; but when there is intelligence, fear is often felt. A little ingenuity in floating paper boats, corks, etc., amuses and diverts apprehension; and, after a few trials, the bath becomes agreeable.

For the first five or six weeks, at least, the mother is usually able to support her infant from her breast, and it will be desirable to continue to do so for three or four

months. Food is sometimes required before that time but the rule is, that children for the first three months be better suckled. At that period, skimmed cow's milk may be given safely, when the natural food is not sufficiently abundant. The suckling pot or bottle is the best method of feeding, for sucking exercises the muscles of the mouth and jaws, and promotes the flow of the saliva, and the admixture of it with the food which is necessary for digestion; while an infant feeding from the spoon only swallows. The form of the suckling vessel permits but a small quantity to enter the stomach at a time, and thus another necessary law is obeyed. Sucking is attended with healthy exertion and consequent fatigue, and is one of the few means of exercise intended for young infants. Cleanliness and cleanliness are important in using these bottles. A sponge or leather soon gets sour and hard, and it is distressing to the mouth. After six months, a gradual approach to solid diet may be made by a slight addition of farinaceous food in the form of boiled or baked fl arrow root, ground rice mixed very thin and smooth bread or hard biscuits soaked or boiled, the water poured away, and the sop beaten till it is wholly free from lumps when it may be mixed with milk till it is very thin, smooth, and slightly sweetened. Sugar often turns sour and should be used sparingly. The first change of food sometimes disorders the system. Two or three days should be allowed for the experiment, and, if the infant does not agree, some other form of farinaceous food may be tried as likely to prove more suitable. Should all be found equally improper, weak chicken, veal, or calf's broth, beef tea freed from fat, and thickened with boiled rice or arrow root, may be tried. The great principle is to begin by slow degrees, giving a small quantity of the thickened food once in the twenty-four hours, that in the forenoon, in order that its effects may be observed, and the night's rest remain undisturbed. Food should always be given about the warmth of the milk.

It comes from the breast; when too hot, it weakens digestion, and is distressing to the child; and if too cold, it does not digest so quickly.

When infants are fed by the spoon, it is not unusual for the nurse to ascertain the warmth by putting every spoonful to her own mouth, a habit equally disagreeable and unnecessary. After feeding, the child should be raised up, when it will more easily get rid of the air which is generally introduced into the stomach during eating. Where there is much disposition to flatulency, an infant should be carefully watched, the accumulation of air occasioning what are called stoppages. If these occur in sleep, they may prove fatal to life, and even when the child is awake they are dangerous, as when affected by them it can not cry out, and its breath is for the time stopped. The practice of giving caraway seeds, aniseed, carminatives, or distilled waters of any kind, is decidedly pernicious. They irritate the coats of the stomach, and, though they may give temporary relief, they create future evil. They are frequently put into the food to make it sit easy on the stomach, but when food does not sit easy we may presume that it is of an improper kind, or given in too large quantities at a time, or too often. If medicine is at any time required, it should be given as medicine, and not with the food. It can not be too strongly urged, that as the disorders (there is a distinct difference between *disorders* and *diseases*) proceed from some mismanagement, they can not be permanently removed by medicine, but only by the adoption of good management. Continual recourse to medicine weakens and irritates the power of the adult; the effect upon the tender, excitable organs and soft frame of infancy is even more destructive to health.

Over-feeding and improper diet are the main causes of the ailments of children. During the first few weeks of life, infants endure none but physical evils, they are exempt from anxieties, from disappointments, from hopes



and fears ; but unfortunately their sorrows, pains, or anxieties are always traced to hunger, and eating is adopted as the universal panacea. This goes on till the child is old enough to comprehend and believe that to eat and drink is the greatest happiness and the greatest good. There is no doubt that the easiest method of stopping crying is to feed the mouth, especially when the senses are not acute enough to find pleasure from observation. The means of relief are then necessarily limited ; yet change of position, loosening the dress, giving the legs and thighs entire liberty, chafing them, gentle exercise by the nurse moving her knees from side to side while the child lies against them, or walking about the room, and pressing it to her bosom, are all of them expedients which may be easily resorted to, and which often have the desired effect. Rattling, jolting and patting on the back, provoke rather than relieve pain.

It is difficult to lay down rules for the regulation of an infant's appetite, since this depends upon rapidity of digestion, which differs in different children. In the first months the mother may pretty nearly ascertain how much her infant requires the breast, and it will greatly add to her own convenience and the child's comfort if some degree of regularity be established. Habit very soon acquires its influence—so soon, and so imperceptibly, that it is desirable to be governed by its power as soon as the mother is convalescent. If a child be brought up wholly at the breast, the mother must not be absent at the hour she is probably be wanted, for a crying, hungry child offers a great temptation to a servant to quiet it by food. Every three hours is the average number of times a child, from two to four months old, requires to suck. A good sleep may, during the night, rest as long as six hours together, but regularity may be attained by night as well as by day. Suppose an infant to wake at seven in the morning, it goes to suck ; after washing and dressing it will take another meal and a long sleep, bringing it to noon, when it

gain refreshed, and, if the weather be warm, carried broad, sleep usually follows upon going into the air, and three o'clock may have arrived before it again requires the breast. From this time until undressed for the night should not be lulled to sleep, but if the child be much inclined for repose, it should not be prevented. It is desirable to give a child the habit of sleeping throughout the night. At six, preparations are made for bed; the undressing and washing produce a certain fatigue, and when the child has again sucked, it will probably fall asleep and remain in that condition four hours. It is a good plan to accustom an infant to suck just before the mother goes to bed, and this it will do even if asleep. Its linen should then be changed, and if it wake up, allowing it to stretch its limbs before the fire, rubbing its loins, thighs, legs and feet, give exercise and refreshment, and prepare for another long sleep. Between this and seven it will wake once or twice again, and require nourishment.

As the power of observation increases, and muscular strength induces exercise, an infant sleeps less by day, and more by night, it requires the breast less frequently, and takes more at a time, the digestive powers being more active, and all the functions stronger. If a child feeds as well as sucks, there should be a regular time for both. The time of waking in the morning, and the middle of the day are perhaps the most favorable periods, the stomach being then comparatively empty, and the digestive power brisk. Mothers may in these cases make arrangements suited to their convenience, without prejudice to the infant. Two circumstances govern the progress to solid and animal food—the appearance of the teeth, and the growth of muscular power. Mastication and exercise are necessary when strong nourishment is presented to the system. Medical men are of opinion that the time of weaning should be regulated by the appearance of the teeth; but in different children this period varies considerably. In the same family, one child has been known

be taken into account. If the mother weak, weaning becomes goes well on both sides, the child vantage, and not be weaned, upon eight, or ten months, are long enough, and sufficient reason connected with the mother. If her infant be still likely, after seven or eight months upon food, and if the office of mother from giving the necessary infant duties, she will be justified in circumstances, the general principle that the health of an infant depends upon the nature of its diet; and if there be such a case, that the loss of the breast will be to the mother will gain nothing in time by weaning.

It is advised to avoid weaning if it can be done gradually, giving the breast milk during the day, and continuing it at night. The digestion is not so soon accustomed to the change, and the teething is more troublesome, and the milk diminishes in quantity, and causes inconvenience. Another advantage is, that, should the infant lose the breast, it will be able to take food from the bottle.



ain. But it will be well that, at this time, she keeps out of its sight, if she be perfectly satisfied as to the trustworthiness of those to whom she commits it. If she can not rely upon another for attentive and rational nursing, her child had better be tantalised by the sight of her, than neglected or mismanaged. For herself, she will take some cooling purgative, and refrain from fluids and stimulating diet. The following application to the breasts will assist in drying up the milk : Three ounces compound oap liniment, three drachms laudanum, one drachm camphor liniment; or if this be too irritating, fomentations of warm water, or poppy heads and camomile flowers boiled together in water, give great relief. Pressure or tightness occasioned by the dress must be carefully guarded against. The distension of the milk vessels occasions great irritation and tenderness; a slight blow, pressure, or roughness in rubbing them, may produce an abscess. It is better to get rid of the milk by its natural absorption into the system, than to draw it artificially; for the latter method keeps up the action of the vessels. Exposure to cold is dangerous, the system being in an excited state.

The diet of a child, after weaning, must be regulated by the strength of the digestive powers, by the teeth, and by the muscular condition of the child. Upon the principle that diet should assimilate with the powers of the system, the gradual change from the soft lymphatic forms of infancy to the firmer condition of childhood, dictates a gradual change in the aliment. If a child thrives on farinaceous food, milk and light broth, there can be no need of change. Something depends upon growth. There are children whose rapid increase of stature, and incessant activity, produce a waste which calls not only for frequent supplies of food, but also for food of a more nourishing quality. With such, animal food once a day (always supposing the teeth are in a condition to masticate it), may be necessary; but if a high degree of exci-

tability, a violent temper, and impatience, prevail, ishing food must be given with discrimination. mother will ascertain whether these qualities are increased or diminished thereby, and regulate the diet accordingly. A lymphatic, fat, white looking child, whose mind and temper are sluggish and indifferent, should not be fed wholly upon fluid or soft diet; more concentrated food will probably correct the temperament. In all cases the state of the bowels, of the skin, and the temperature indicate whether the food nourishes too much or too little. Fat is no positive criterion of health; a very fat child, after three years of age, is rarely very fat, but the muscles may nevertheless be large; their size, compared with that of the bones, and with the age and growth, determines whether the child be properly nourished. Emaciation is a certain indication of imperfect nutrition, a consequence of over-feeding as much as under-feeding. If the digestion be over-tasked by quantity or quality, the chyle is vitiated, and nutrition insufficient, when the supply is not in proportion to waste and growth, there is a deficiency in the formation of all the tissues. The bones remain soft, the muscles flaccid and shriveled, the skin covered with eruptions, the nerves weak, and so excitable that all impressions are painful, and a constant fretfulness or moping incapacity prevails. It has been ascertained that scrofula and consumption are produced both by over-feeding and want of sufficient nutriment.

A soft, clear, pliant skin, accompanies a healthy performance of its functions. It is not transparent in all parts, because complexion makes a difference both in color and thickness. Its condition is better ascertained by its texture than by its hue. A dry, harsh, scurfy skin indicates something wrong in the alimentary canal, which may be corrected by the diet, or an inactive state of the system itself, to be overcome by exercise and warm baths. A cheerful temper is a very sure index of health. Cheerfulness, mirth, and freedom from anxiety, are the peculiar

ilege of early childhood; the past and the future are nothing, the present every thing. The absence or interruption of these sentiments denotes deranged health. It is true, that what is called a spoiled child, is troubled by bad temper; for where there is moral mismanagement, there will also be physical mismanagement. The petted child will have what it desires to eat and drink, will go to bed only when it pleases, will submit to no regulations, while the irritation to which it is continually subject from the contradictions it must encounter, and from its own unrestrained feelings, wears the nervous system, and exhausts the energy which is required for the healthy action of all the functions.

The general rules for diet after weaning, then, are these: Mild nourishing food given at regular intervals of time, the quality to be more animalised as the waste of the system is increased by growth and exercise; observation to be made of the effect of any new substance, such as fruit, meat, etc., that it may be discontinued if hurtful, and wholly abstained from (for a time) when found to be so. Seasoned dishes, fried and salted meats, pastry, uncooked vegetables, unripe fruits, wine and rich cake, to be altogether avoided; mastication to be insisted on, and no viand to be eaten in large quantities because it is liked, while nothing disagreeable should be forced upon the appetite. Whenever there is a disinclination for food, the feeling should be indulged, since it bespeaks a state of stomach in which food would be injurious. Tempting the appetite is physically pernicious, while morally it is the first step to needless sensual indulgence. Children require to eat more frequently than adults. A healthy, active child of two years, needs food every three or four hours, while awake, provided the stomach be not loaded; but continual eating allows no time for the repose which the digestive apparatus requires, and establishes a bad habit. Variety is also desirable; not that children should eat of several dishes at one meal. <sup>but</sup> ~~they~~ <sup>they</sup> not be fed



means the preparing of food in the simplest the fare, it should be dressed in cleanliness, kept free from grease, not overdone, neither burned nor dried, the flavoring by rule, not by guess work. Food which is not only unpalatable, but indigestible, causes waste and discomfort. The simplest food, ever simple, should, for both these reasons, be prepared. Disagreeable food is tossed away and spoiled, and thus children learn to become indifferent to the true value of food. They receive its indigestible properties by the result of sickness or fretfulness is no unfrequent consequence of an ill-dressed meal. There is a natural aversion to bad food, intended to save the system from injury, quite as much as to gratification from eating. The senses are not trained to discriminate between what is wholesome in cookery, yet no such training is inculcated.

We would recommend bread and butter, and coffee, diluted with milk, as a simple supper. New bread is decidedly unwholesome in the stomach, causing distension and

When the gratification of eating has not been encouraged as a chief source of delight, they will be as much sought for the pastime they afford, as the pleasure of appetite; they should not be given as incentives or rewards.

In training the very young, it is to be remembered that natural inclinations and impulses are evil only in their use, and that the desire for food, like all other desires, is intended to be a source of reasonable gratification. Eating is made pleasurable, because it is necessary to life. During infancy, the most ready means of giving and obtaining quiet, is food; a constant habit of eating, and looking to it for comfort, is one of the earliest impressions an infant receives. A child evinces an anxiety for any wants it may see, and this desire is laid hold of as a bribe for a reward. Eating thus becomes the chief aim and object; a child learns to eat too much and too often, is satisfied with mere animal gratification, and is most attached to those who pamper him the most. This is the use of a natural propensity, and the first step to sensuality. But if an infant be fed only when *hungry*, instead of when *uneasy*, and as it grows older, eats upon the same principle, with such habitual regard to neatness, order and good cookery, as shall accustom it to discriminate between what is fit and what is unfit, wholesome and unwholesome, there will be no undue value attached to food.

### SLEEP.

All young animals sleep much. The child partakes of this instinct so fully, that there is no necessity to promote it but only to prevent its disturbance. Physical comfort is all that is needed; and this is to be obtained by whatever secures health—namely, proper diet, warmth, cleanliness, and the fatigue which follows upon the exercise proper to infancy. During the first few weeks of life, the sense of hearing is so dull that noise does not disturb. Loud noises, however, are sometimes distressing, even

sioning a weakness of the nervous system. But the continuous sounds produced by talking, the noises of street, or the voices and sports of other children, will rouse infants in the first month or six weeks, and it is much trouble if they become accustomed to them. Sleeping in the arms, or on the lap, is, for every reason, to be avoided; no child accustomed to this indulgence will long in its bed; neither ought they to be lulled to sleep, they may be early habituated to be put into bed and so left, with the necessary caution of watchfulness.

Although it is not practicable to adhere strictly to rules at first, there should always be an endeavor to form good habits, and this from the beginning—those which relate to sleep should be established while the disposition for repose is strongest. On laying an infant down should be ascertained that the feet, hands and face are comfortably warm, that every part of the body is supported, and the limbs uncramped; the head and shoulders being raised a little by the pillow, sloping gradually to the bed. Blankets are better than sheets. The cover should be so arranged that, while there is sufficient space to breathe freely, the face is kept warm. It is better to take up a child the instant it wakes (particularly if it have not been long asleep), nor if it cries after being laid down. Change of posture, gentle rocking or slight rocking on the back, should be tried. If these fail, it should be taken out of bed and quieted in the arms. Change of linen may be necessary; in short, patience, perseverance and ingenuity, should be put in practice, with a view to produce comfort without entailing bad habits.

In rearing children, it is well to bear in mind that present evils ought never to be overcome by wrong means. It is best that infants should lie alone, for the air of a room in which one or more grown-up persons are sleeping becomes impure, the child imbibes the perspiration produced by sleep, and is in danger of being overladen with accident by no means uncommon. Children, lying al



sometimes become cold in the course of the night, and it may then be necessary, in order to restore warmth, to take them into bed; but when warmth has been restored, they should be again put into their own cot or crib. It is difficult to overcome that natural instinct which leads a child to lie at the breast; but they sleep alone in the day for hours at a time, and may therefore be trained to do so at night. Darkness is favorable to repose, and it has its influence upon the young, although not at the beginning of life. The object, then, is to cultivate a habit of sleeping throughout the night. Mothers must expect their rest to be disturbed until the exercise and fatigue of the day increase the necessity and the desire for night sleep. Refreshment and change of linen are needful at night, and these should be given very quietly; no amusement should be offered, or wakefulness will be encouraged, and a child will regularly rouse itself for a game of play.

Every mother will remember that she has duties as a wife and the mistress of a household, and that in providing for the comfort of her child she must not sacrifice that of her husband and the rest of the family. A wakeful, fretful child, is a trial to patience, and disturbed rest is hard to bear. Every arrangement that circumstances permit, that can prevent this infliction, ought to be made and adhered to. After the first three or four months, if suckled when the mother retires to rest, as already recommended, the child will wake but once more, provided the management be judicious. A child should never be kept awake when fatigued, under the idea that it will rest better at night. Over-fatigue produces general irritability, pain in the limbs, fretfulness, and restlessness. For this reason, however apparently disinclined, when the fixed hour arrives, there should be no delay about preparing for bed, and this practice ought to be maintained during childhood as well as infancy. The habit of sleeping in the day is of great service, even during the first four years, and longer where there is delicacy of constitution or great

activity. Sleep is the only means of giving rest to the system of a child; in health, there is no repose except during sleep. In warm weather, it is very acceptable to active children of five or six, and frequently relieves them from a weariness which assumes the appearance of indisposition, or takes the form of ill temper and disobedience. An hour's nap will be found a safer physical and moral remedy, than a dose of medicine, or punishment.

### CLOTHING.

Warmth is essential to the health of a new-born infant, and this is chiefly to be obtained through the medium of clothing, for in the first stage of infancy there is no muscular exercise. What renders warmth by artificial means so necessary, is the fact that infants, having a languid circulation, produce little heat naturally, and easily perish with what they do produce; for which reasons they are liable to suffer far more from exposure than adults. A certain degree of warmth is essential to the performance of all the functions, and protection to the skin assists materially in maintaining this warmth, which should be sufficient to keep up the *insensible* perspiration, yet not so high as to produce continual *sensible* perspiration. The latter state relaxes the system, and renders it liable to be affected by cold draughts or changes in the weather, while it exhausts the strength, and, by increasing the action of the blood on the surface, deprives other organs of the necessary quantity. Clothing, therefore, must be regulated by age and by the season. The sudden change in the situation of a new-born infant calls for great care in the protection of the skin. This should be entirely covered for at least the first month; even the face and hands should be but gradually exposed. Lightness, as well as warmth, is requisite in all articles of clothing. Flannel and muslin possess these more than any other materials. But flannel, even of the finest texture, may be too i

tating if worn next the skin, and it is desirable to give the infant a shirt of fine linen or cotton under the flannel to protect the cuticle. Another reason for the use of linen or cotton next the skin, is, that flannel can not be washed often without injury to its texture; and there is also danger that, as it does not show the dirt so quickly, it may be continued to be worn too long. Linen and cotton take little harm from frequent washing, and are so much cheaper than flannel, that a larger stock may be provided for the same expense. At no season can flannel be dispensed with, though in hot weather it should be thinner than in cold.

Looseness is another requisite in an infant's dress; there should be a free circulation of air between the skin and the clothes, as well as a slight friction upon the surface. All confinement distresses, and, when it amounts to tightness, it may occasion deformity, before the evil is suspected. Full room should be allowed for the increase which is continually and rapidly going on. For this reason, every part should fasten with strings; and in tying these strings the greatest care should be taken not to draw them too tight. It is a good precaution, after every string has been tied, particularly those under the chin and round the waist, to put in the finger, to ascertain that it is not too tight. In comparison with strings, buttons and hooks and eyes are not to be commended; they have but one advantage, that of putting it out of the power of a hasty or negligent nurse to fix the dress too tight, as may be the case with strings. It is necessary, frequently, to ascertain whether a child has outgrown its clothes. Growth is so rapid during the first two years that a few weeks will make enough of difference in the relative size to produce pressure or restraint; clothes, therefore, should always be made so as easily to let out or enlarge, particularly round the waist, throat, and armholes, and across the chest and back.

It must ever be kept in mind, in regard to clothing,



as well as other circumstances in the economy of an infant, that the babe can itself give no explanation of the inconveniencies which it suffers. Bearing this in mind, and remembering how continually adults are annoyed by trifles which they have the perception to discover, and the ability to remove, it will readily be acknowledged that nothing is too insignificant for the constant and regular attention of a mother. Articles of dress contract, or otherwise lose their shape; a ruck forms, a hook bends, or a button turns and presses upon the flesh. Any one of these accidents occasions pain, and frets the temper of an infant.

The more easily the dress can be put on and off, the better. There should be no other fashion than what is dictated by convenience and comfort. The fashion of long-clothes (such, for instance, as measure a yard or more in the skirt), leads to needless expense, both in material and in washing, beside encumbering and overweighting the child. There need be no more length than is necessary to cover the feet, so that the cold will not draw up underneath the clothes, and to conceal the under-clothing. The change observable in a child when the long-clothes are laid aside, sufficiently proves that the limbs have been confined and activity restrained. The frequent dressing and undressing which the use of ornamental attire necessarily entails, irritates so much, that the slightest sign of changing the apparel is a signal for crying, and a habit of fretfulness, during dressing, is formed, unfavorable to the tempers of both child and nurse. Loose gowns, fastening in front, are therefore preferable to frocks (for the first two months), however less elegant or fashionable. All unnecessary folds should be avoided, because they may press painfully upon the muscles or bones; and the materials should be of a soft, yielding nature. Harsh seams and hems, or rough tapes, especially where coming in contact with the skin, will be avoided by the skillful seamstress. Where pecuniary means are not abundant, the

other, in making her baby linen, should remember that antity is more important than quality, and that cleanliness can scarcely be observed where the stock of clothing is scanty.

One of the most important parts of an infant's clothing is a band to support the abdomen, familiarly called the belly-band. This should be made of soft flannel or muslin, that is to say, of material having some elasticity. It is intended to give support to the abdomen, especially to the navel; and it protects the internal covering of the intestines from any sudden distension. The umbilical cord is usually divided at birth about three inches from the abdomen of the infant, close to which it is securely tied, or the child will bleed to death. The final separation of the remaining portion of the cord is the work of nature, and takes place at various periods, sometimes in five days, or even less, sometimes not till the fifteenth day. The child is more comfortable when this is over; the unpleasant smell alone, which of course attends the decay of the navel, is distressing; but there is always a good deal of tenderness, which sometimes amounts to ulceration and pain.

In ordinary cases, as soon as the separation has taken place, a split raisin and a piece of singed linen should be applied to the part, and changed daily.

It occasionally happens that after a few weeks the navel starts; in such a case, a common ball of sewing cotton, half used, so that what remains is soft and yielding, should be laid upon the navel, and confined by strips of strapping-plaster placed crosswise. If anything more serious appear, such as redness, ulceration, discharge, etc., medical advice is immediately necessary. The vessels of the umbilical cord pass through the abdomen, making a passage which for the most part closes quickly and soundly after the separation of the cord; but unusual size in the navel, indispotion to close, or screaming, straining, sneezing, or any sudden violent effort, may interrupt the natural process, and force the intestines through the open-

ing. A steady protection, which shall gently resist efforts yet not compress the cavity of the abdomen to obstruct the healthy action of the viscera, is required. The band affords this protection. In putting it must be remembered that there is a distinction between support and pressure, the former is indispensable, the latter dangerous. If the cavity of the abdomen be diminished, its contents are compressed, and when any action takes place that strains the parts, there is no room for the necessary distension, and the weakest give way. The action of the bowels is impeded by compression, occasioning flatulence and constipation. Medical writers dwell upon the importance of the band, and decide that rupture is frequently the consequence of neglect or ignorance in regulating its use. It requires to be taken off and rearranged morning and night, and a clean one put on every other day, or gets rucked, and so unfitted for use. It is often worn and is then likely to create pain and disturbance of the bowels, for which reason the same should not be worn both day and night. With some children the band is necessary for many months; when it is discontinued the stay or waistcoat, usually worn as a sort of support to the rest of the clothing, should reach two inches below the navel; it prevents an enlargement of the abdomen, and sustains the child in its attempt to sit up.

The custom of keeping the head warm is gradually disappearing. The bones of the skull are not all united at birth; the parietal bones are divided, and the soft matter of the brain on the top of the head is perceptible to touch. This opening was supposed to give a liability to cold, and the head was kept very hot; an injurious practice, increasing the action of the blood-vessels of the head to a dangerous extent, and impeding the junction of the bones. When a child is to be carried about the head, however securely it may be clothed, the cold draughts will prevail even in mild weather, should be guarded against by the addition of a light handkerchief or shawl.



disorders arising from checked perspiration will thus be avoided. On the other hand, a child should never be presented naked too near a fire, as a scorching heat injures the texture of the skin and deranges its functions. On bringing an infant near a fire on any occasion, it may be well to screen its face and hands, in order to protect it from this evil.

There is little doubt that the eruptions to which the infants of the poor are subject, chiefly arise from want of cleanliness and warmth. In this country, where changes of temperature are sudden, and continual judicious clothing is the only safeguard, summer apparel can not be safely adopted and laid aside at a given period, nor can the same dress be always worn at noon and in the evening. However warm the clothing, infants should not be carried abroad in cold weather, their lungs can not bear a low temperature, and there is no exercise to keep the blood equally distributed. Where ventilation is attended to, no other change of air is wanted but what may be obtained by moving from room to room. An infant usually falls asleep when carried abroad; cold increases the disposition to do so, and renders it dangerous, while no good can be derived from the external air, since common prudence dictates that the whole person must be completely enveloped. If carried about a well ventilated room, at a moderate temperature, the child breathes freely and without risk. No child can be taken into the open air in very cold weather with safety, until it is able to take so much exercise as shall keep the blood at the surface. Before this period, the quantity of necessary clothing impedes activity. This, with the state of the air, benumbs the limbs; the blood is driven from the surface, and loads the lungs, stomach and brain, etc., the child returns home, is brought suddenly into a room with a fire, and probably close to the grate, for the sake of restoring warmth; violent reaction follows; the harmony of the system is disturbed, and the functions sustain at least temporary in-

jury. The daily repetition of the disturbance tries strongest constitutions severely, and, where there is disposition to disease, active disorders follow. How better to put a child into a swing, to toss him about, encourage him to use his voice, throw a ball along the ground, and creep or run after it, all of which, and much more, may be done in a room properly warmed and ventilated. By such means mental and bodily energy is kept up, blood is equally distributed; there is neither stagnation nor over-action; fatigue follows upon the exercise, then comes healthful repose, instead of the torpor which succeeds the combined effects of cold and inactivity.

When the period of infancy has passed, the child must still be attended to; if insufficient, children creep from the fire, and are very unwilling to face the cold or to dress themselves; if properly clad, weather seems to make no difference to them. When a child can run alone, and express its wants and wishes by signs or sounds, it should (in cold weather especially) wear loose drawers; these should be cut so as to be no impediment to activity or to its habits; if the lower part of the body and the loins are exposed to cold, weakness of the urinary organs is often produced, very distressing and difficult to cure. The weight of a pair of drawers more than equals that of two coats, so that their adoption need cause no additional expense.

The care of the feet is for many reasons desirable. The practice of keeping them uncovered is not to be recommended. There is danger of laceration from the hard and sharp substances lying on the ground, and the posture is not favorable to general health. Chilblains are frequent with those whose feet are exposed in cold weather. The only advantage gained is freedom of movement, but this is an advantage which the wearing of shoes does not necessarily deprive us of. If shoes were made with a due regard to the shape of the feet, and a liberal consideration of other circumstances, no harm would

**I**t is to be observed, that the foot in its natural condition, **as** to be seen in a nursing baby, expands regularly from **the** heel to the situation of the smallest toe from which **point** it contracts in an oblique direction toward the great **toe**. Shoes are not made in this form, but, after expanding to a point a little short of the smallest toe, they contract on both sides equally, thus crushing the outer toes toward the center.

It is also to be observed, that the sole is naturally formed on a perfect level from heel to toe. Shoes, however, are formed with an inequality of from half an inch to a whole inch, or even more (we allude to grown-up persons), between the heel and the front of the foot. Thus, the body is thrown forward from a strong point, the heel, to a weak point, the toes; the limbs are prevented from ever keeping a straight position, and the whole figure and walk are deranged. If we were to reflect for a moment on the exquisite adaptations of all things in nature, we should instantly see the absurdity of this conduct; if there had been any advantage in making the heel somewhat higher than the front of the foot, would nature, which has made every thing so nicely suitable, have failed to fashion the foot accordingly? Perhaps it is not to be expected that, either for children or adults, shoes without some elevation behind are to be adopted; but it may at least be said, that the lower the heel in all cases, the shoe will be the better. Shoes should neither be too roomy nor too tight, though the latter is the worse fault. The unavoidable results are corns, bunions, and distorted and turned-in toes, all of them evils of no small magnitude. When we are thus affected, free motion is impeded; the foot, instead of being placed firmly on the ground, is set down in any way that will best avoid pain; the whole person droops, the chest is contracted, and, perhaps, worst of all, the temper is rendered fretful. A mother, sincerely anxious for the welfare of her children, will cause their shoes to be made of a proper shape and consistence, to allow of perfect freedom.



When an infant is to make its first advance from socks, the best plan is to cause the shape of the foot when standing to be traced, and the sole shoe to be made from the outline.

On the general subject of protection from cold remarks may here be made. There is an opinion children should be made hardy from the first, and is therefore proper to plunge them into cold bath otherwise expose them to rigors which are ob disagreeable to them. The practices of savage are cited in support of these opinions, but no attention ever been made to show that they are supported philosophical principle. When the practice of a nation is cited, we should guard against mistaking liability of their constitution for a general principle now known that the nations in question do not nearly the same amount of nervous sensibility European races, and that this is the true cause enduring so many tortures uncomplainingly at the What their infants may not be affected by, may injure the comparatively tender structure of an European infant. There are certainly differences of the same among infants in our own country, and some might be little the worse of the rigorous treatment prescribed. But there can be no doubt that, as a principle, infants require warmth, and ought not unnecessarily exposed. In them the circulation is consequently little heat is generated in their naturally. Without being kept warm, there can healthy action of the functions in their case; and a healthy action of the functions, the sound formation of the various parts of the frame will be obstructed the contrary treatment, the foundations of glandular pulmonary disease are often laid. Infants, therefore should be sufficiently, though of course not completely clad. In reply to the argument that the children poor are necessarily exposed, and have the best p

health, it can only be said they live *in spite* of the exposure, not in consequence of it; those who are accustomed to visit the poor testify to the comparative sickly condition of the children, while the bills of mortality show that the large proportion of deaths are those of young children; and the observations of the best informed attest the fact that much suffering, great increase of disease and mortality are the consequences of injudicious exposure to cold.

#### WASHING AND DRESSING.

For the health and comfort of an infant, washing is an important requisite. It should be performed every morning and evening, and not in a slovenly, but in a complete though gentle manner. The physiological reasons for such frequent ablutions are these: The pores of the skin convey superabundant matter from the system, and that matter is apt to remain upon the skin so as to clog up the pores, and prevent them from performing their functions, unless it be washed off. The pores also act as absorbents, and this function likewise is impeded when the skin is not clean. In the case of an infant, washing is necessary, in a more particular manner, for the removal of impurities, the contact of which is unfavorable for health. For reasons which have been adduced under the head "Clothing," the water in which infants are to be washed should be warmed. Cold water is further objectionable as tending to drive the blood inward, and over-stimulate the organs, the unavoidable consequence of which is disorder, and often death. For the same reason, when the business of bathing infants is to be performed, great care should be taken to prevent draughts of cold air from coming upon them. They can only be safely undressed beside a fire for the first four months.

A new-born infant is covered with a pasty, greasy substance, which must be removed, otherwise it will irritate and excoriate the skin, and occasion a disagreeable smell. Soap and fine flannel, or sponge, are the best applications;



every fold of the skin, the joints, armpits, etc., must be carefully examined and washed. It is by no means common to rub a new-born babe with spirits, to prevent its taking cold after washing; but the stimulus thus applied to the skin is injurious, and must be painful, while the rapid evaporation occasioned by the application of spirits tends to produce instead of to prevent cold.

On preparing for dressing and washing, every necessary article should be near at hand; it is a sign of good management when a nurse has to rise to fetch any thing. The *horse*, or screen, with the clean linen conveyed under it, placed, will keep off draughts. The basket, basin, sponge and towel, should be laid within reach, in such order that there can be no confusion, and that the clothes shall not fall into the water, nor the wet sponge and towel find their way into the basket. The infant being thus prepared, with the addition of a flannel and a low chair, strips the infant, and having washed the head with soap, rubs it dry. The face, throat, arms and hands, are then successively sponged as tenderly as the child can bear (soap is not always required) and tenderly but thoroughly wiped. The infant is then turned over, and the back, loins and legs are abundantly washed with water; the left hand holding the child, its legs being bent over the knee, so that the water flows from them into the basin. The thighs, groins, etc., require great attention both in washing and wiping. The corner of the apron should then be turned up, so that there is a dry surface for the child to rest on, while it is carefully wiped. The rolls of fat and creases in the neck, arms and at the bend of the arms, hamstrings, and the ears, must be thoroughly washed and dried. As the friction between the parts increases the perspiration and the liability to excoriation, they should, after wiping, be slightly powdered with unscented hair-powder or powdered starch. If occasional heat creates redness and chafing, a small quantity of plain pomatum, or lip salve, is often serviceable.



After washing and drying, the skin should be rubbed with the hand or a flannel glove; this restores the circulation to the surface, and is agreeable and soothing. Morning and night this washing, from head to foot, must be repeated. While every impurity, from whatever cause, should be immediately removed from the skin during the day. If a child throws up its food, or there is much flow of the saliva from teething, the face and throat should be washed once or twice during the day. Before the clothes are put on, the child should be allowed to kick and stretch its limbs upon the lap; this affords an opportunity of ascertaining its healthy condition. At no period of childhood should this attention be omitted; any little defect in walking, running, or even sitting, should be inquired into, and the cause ascertained.

The clothes of an infant should be made with reference to convenience and speed in dressing, without requiring any pins for the fastenings. The band, shirt, and back skirt or flannel, may be arranged while the infant lies on its stomach; turning it on its back, they may be fastened in front, and the diaper and flannel square folded and secured. Raising the child on its seat, the frock and petticoat may be put over its head, the arms put through the arm-holes of both at once, the palm of the right hand of the nurse supporting the infant across the chest, while the fingers assist the left hand. The child is then again turned over (if the frock fasten behind), and the strings tied. Putting the arms through the sleeves is a nice part of the task. In order to avoid injury or pain, the nurse should ascertain how the joint moves, remembering the extreme delicacy of the limb she directs. The clothes which are taken off should be examined; those that are not dirty, but moist, should be well dried before using them again, and nothing retained that has an unpleasant smell. Where economy is important, the offensive part may be washed out.

An infant usually cries considerably while washed and

dressed. When not violent and continuous, crying is serviceable; it gives the only exercise to the lungs, and respiration, that infants can bear or take. As they grow older, and acquire other powers, crying is diminished. Tenderness and dexterity are, nevertheless, in many cases needful; when roughly handled, the sight of a basin and the sound of the water are the signals of crying and sorrow, and it may be years before a child will regard washing as a source of comfort. This it is ought to be; every pain should therefore be taken to soften its discomforts to the young and tender. When the child is old enough to be amused, a playful, cheerful manner on the part of the nurse will render the operation so pleasurable that all painful recollections will fade, and agreeable recollections only remain. As soon as children acquire the power of voluntary motion, they necessarily make themselves dirty; a habit of frequent washing renders it uncomfortable for them to remain in that state, but at an early age pleasure in washing mainly rests upon the way in which they are handled—if roughly pulled, twitched, and wiped with no regard to comfort, rebellion and dislike, naturally accompany the effort to keep them clean.

Every kind of clothing should be aired before being previous to being put on; all flannel garments, in particular, require to be carefully dried in this manner. Damp linen or flannel, dried upon the person, must necessarily produce evil consequences, especially when used with infants, there is little exercise. The quantity of linen they require makes caution upon this point more important.

#### VENTILATION.

The organs of respiration are constructed in accordance with the nature of the atmosphere, or what is called pure air. They are, therefore, deranged, and the blood becomes vitiated by any departure from this natural order. A

that has been frequently breathed is deprived of its oxygen, and charged with carbon, and thus is unfit for respiration, there should always be a means of admitting fresh air, or renewing the air of an apartment inhabited by children. To do this where there is no proper arrangement for ventilation, without creating draughts, is a difficulty. In mild weather, a window may always be safely left open during the day; and if this be insufficient, or the weather unfavorable, opportunities should be taken to change the atmosphere by a thorough draught of air when the children leave the room. A window open at top, about an inch, will do something toward keeping the air wholesome, without much risk, particularly if the window be so high that a stream of cold air does not descend at once upon the children. When the attention is directed to the importance of pure air, occasions continually offer when rooms may be ventilated without danger of cold. Sleeping rooms are more particularly liable to deficient ventilation; three or four children probably sleep in the same chamber, and going early to bed, the air is perhaps unchanged, or only changed in a small degree, for ten hours. It is scarcely possible to lay down precise rules for preventing such an evil.

Those who possess the means, ought to avoid placing several children in the same bed room; and those who labor under the difficulties of small houses and large families, will meet the evils of close rooms by taking care that there is some aperture, either the chimney, or a ventilator in the ceiling, door, or window, which shall admit air with the least possible draught. It is a greater evil when the same room serves for day and night; but here, also, an exercise of ingenuity and care may serve the desired end. Where there are difficulties, let them be met by that determination which, when springing from conviction, is generally able to accomplish its object. **Bedding needs daily ventilation.** Every morning, all the **thrown open, and freely exposed to the**



air until perfectly cool. The perspiration which is generally abundant during sleep, occasions a necessity for precaution. Heated impure air has a bad effect upon the tempers of young children; they grow languid, irascible, and fractious; the nervous energy is checked, and all the functions, those of the brain especially, are feebled.

Children evince uneasiness by crying, passive fitfulness, or active violence, as they are differently constituted. A constant recurrence of irritating causes renders them habitually fretful. They are, therefore, morally as well as physically injured by breathing an impure atmosphere. The mother or nurse being subject to the same influence, their tempers are in no condition to soothe the frail little beings around them. Mutual and increasing irritability prevails, destructive of true maternal affection and feeling. Impure air is not the only cause of this miserable state of things, but it is one which aggravates all the evils.

Considering the defective food and clothing of the children of the poor, and also the badly ventilated and generally filthy condition of their dwellings, it is evident that much of that health which they possess is owing to their spending the greater part of their time during the day in the open air. This fact, in itself, ought to impress upon all mothers the propriety of preserving a constant freshness and purity of atmosphere in the apartments of their children; at the same time, however, taking care to prevent the rushing of cold draughts from doors or windows, as these cause colds and other illnesses perhaps as dangerous as the maladies which may arise from the want of necessary ventilation.

There are many points connected with pure air, which require constant attention where there are children. Among these may be cited the instant removal of soiled linen, and all other offensive matter; forbearance in drying or airing clothes, bedding, &c.

in the room; abstaining from the use of any clothing, sheets, blankets, etc., after they require washing; neatness with regard to utensils; in short, minute attention to cleanliness, which is not only essential to health, but has its influence upon morals—for dirt and indelicacy are frequent companions, and a disregard for the decencies of life is a step toward indifference to its virtues. For these reasons, as well as for security to health, *habits of cleanliness and delicacy should be formed early*; children acquire or disregard these in proportion as the manner of those associated with them is indifferent or careful. When their mother or nurse is systematic and reasonable in her attention to the personal necessities of the children, they feel the influence of such habits, although they neither reason nor reflect upon them; after a time a sense of comfort and self-respect is associated with the observances to which they have been accustomed, and a sense of propriety eventually becomes part of their character.

### EXERCISE.

Repose is essential to the existence of a new born babe; the functions of respiration, though regular, are not prepared for the excitement caused by motion, nor are any of the animal organs fitted for exercise. Unless where there is unusual strength, the fatigue of washing and dressing is sufficient for the first three weeks, as is amply proved by the long sleep which (when all else goes on well) usually follows upon those operations.

In the course of a few weeks, the senses begin to act. A brilliant object attracts the eye, or a sound the ear, and a slight movement is the consequence. This is the beginning of voluntary muscular motion. In time, muscular action becomes independent of mental impressions, for the ~~action becomes independent~~ outstrips the progress of the

that an infant can

create exercise for itself in the acts of sucking and crying and in slight movements of the head, hands, and feet. For some time it is not fit for any other exertion of the muscular system, and accordingly it should be subjected to no other. It should not be dandled, or in any way moved violently about. It should lie quietly in the arms of the nurse, or in its crib or bed, carefully supported in all parts of its body—head, back, loins, and limbs. The reason of this is, that the bones are at first cartilaginous, or gristly, soft, pliable, and elastic, and therefore totally unfit for enduring any strain, force, or weight. Great evils may follow from the infant being forced prematurely into an upright position, or from that position after the child is in some degree fitted for it, being continued too long. Women entrusted with the charge of young infants out of doors, are perpetually seen subjecting them to the upright posture, prematurely, or too continuously, from a natural but most fatal wish to save fatigue to themselves. It should be distinctly understood that when the upright posture is assumed, the weight of the upper part of the body is thrown upon the lower part of the spine. If that part of the system be sufficiently strong, no harm ensues; but when it is otherwise, it gives way, and the chest is thrown forward and downward. The double consequence is a curvature of the spine, which too long neglect may confirm into a settled deformity, a crushing of the organs on which depend respiration, circulation, and digestion.

A slow rocking or swinging motion as the infant lies in the lap or in the arms, is the best possible commencement of exercise. Sudden jerking on the knees, pats on the back, or anything which jolts and shakes, produce internal pain, and is more irritating than soothing. Gentle motion may proceed to something more active, as the strength of the limbs (and the neck especially) dictates. The power of holding the head up, and moving it steadily from side to side, forms a good in-



of the strength of the spine. In exercising a babe, nature must be followed and seconded, not directed and controlled. When it is desired for the first time to change the recumbent position, the whole person of the infant should be gently elevated as it lies along the arm or lap, and when the upright position is at length assumed, it should be only for a minute or two. Attention should be given to the effect produced upon the breathing by exercise. Some infants turn black in the face upon meeting the air quickly, and their breath will be stopped on being carried rapidly down stairs. Where such symptoms exist, additional care is necessary. An infant should never remain very long in one position, because the pressure that takes place being confined to one part, free circulation is prevented, and numbness ensues. When carrying a heavy child, the nurse herself experiences this, and the child must feel it in a greater degree. From six to fourteen months is the period which most taxes the strength and activity of a nurse. The child has muscular power enough to sit up, and to bear, and to need, a good deal of motion, yet is not sufficiently strong to depend upon itself. It still requires to be so carried, that its weight chiefly falls upon the nurse, while its incessant desire for motion makes nursing really hard work. But when allowed and assisted to take judicious exercise, it sleeps more soundly and for a longer time at once; it will be more easily diverted in its waking hours, while its growing intelligence and affection render it an object of deeper interest and amusement. Thus, the good nurse has her reward.

The spontaneous efforts of a child will never injure it, if placed in a situation to make these efforts securely. Thus, when an infant is laid on a large soft cushion on the floor, the endeavor to rise is made as soon as the muscles of the neck have some power, and the head will be lifted a lit                    the effort stops there. The head can not be                    sition, and it falls again. The

cushion protects the part; there is no pain, and the attitude is made again and again, till the fatigue or disappointment causes a change in the action, or a cry for the assistance which experience has taught it to expect. Customing a child thus early to be left on the floor, bed, is a means of moral discipline for the mother's convenience, and for the furtherance of freedom to the child. When a child can sit up firmly, tying it into a chair will support the back, into a chair swing, or allowing to sit on the stuffed cushion with the means of amusement just within reach, promotes exercise, and permits spontaneous exertion. Such and similar resources for advancement of physical good ought never to be adopted as a means of punishment; when once this has happened they are regarded with aversion; neither ought a child be forced to submit to them, if at any time they are disagreeable or fatiguing. As with all the other functions, exercise is a cause and a consequence of strength. The first indication of the desire to make the legs bear the weight of the body, is given by the child itself, by pressing its feet on the lap; the lower limbs are, however, still incapable of supporting its weight. The pressure, with the setting of one foot before the other, are only salutary preparatory exercises, and should be encouraged and aided by holding the infant so that it may just place the feet on a level surface, without bearing its own weight; from this the progression must be very gradual.

As the power of walking alone depends upon the strength of the bones and muscles, the period at which it may be acquired is not always the same; much, however, depends upon nursing. An infant that is continually in the lap or in the arms, does not get the same amount of healthful exercise which lying on the floor and to some extent about permits, and is therefore not so well prepared to use its limbs; it is not likely to run alone as early as that has been thus reared, nor as soon as the infant has been made to use its feet and legs by continual

ing. The probability is, that a child too soon forced to walk has bent legs or weak ankles; or if it escape these evils, it will probably be less strong upon its legs, and less active at two years of age, than the child whose exercise has been brought on by more gradual and judicious means. Children have been known to run alone at nine months; the average age is between twelve and sixteen months.

Very fat heavy children should be carefully managed, while a delicate child requires equal caution, although from a different cause. A notion prevails that it is desirable to get a child early to run alone, because it saves trouble and time; yet as much attention (perhaps more) is required when the infant shows a disposition to walk early, as when it walks late. For many weeks, every attempt it makes to walk exposes it to the danger of falls or blows against furniture. It has to learn to balance, and guide itself, to acquire a knowledge of distances, all which can only be done by frequent repetition, during which the eye and the hand of the nurse are as needful as ever. These are better than her voice: the constant injunction to take care, and the exclamations of alarm which escape from the anxious guardian of a child learning to walk alone, are seldom beneficial; indeed, where the child is naturally timid and cautious, they deter him from making serviceable attempts and spontaneous efforts, and encourage a hesitation which renders him incapable of accomplishing those efforts with the certainty which makes them pleasurable; whereas, if he is heedless, he learns to rely upon the warning sounds which greet his ear, and is slow in acquiring those perceptions upon which safety depends. An irritable child is made impatient by them, and an obstinate one defies them.

It is desirable not to bestow too much pity upon a child when suffering from a fall or a blow: practical experience of the effects of incaution must be acquired by personal inconvenience; but while the effects are felt, there should

**4. advice, nor indifference, but quiet assist-**



ance and moderate sympathy. A timid, sensitive child requires to be encouraged to endure; a bold one, perceiving his sufferings to be disregarded, learns also to disregard the pain of others, and finally, to inflict it. Some children are very angry when hurt; with such it is useful to discover that you distinguish between the cry of anger and the cry of pain.

None of the artificial means of teaching children to walk, can be recommended; the leading-strings occasion all the weight to be thrown upon the chest, while the cart, though less objectionable, forces a child to continue on its feet too long at a time. It is a good plan to encourage walking, by placing the chairs and tables at convenient distances for the child to support itself by; it sits down on the floor when fatigued, and in raising itself again, acquires power in the right way. Leading by hand ought not to be resorted to until there is enough strength and firmness to walk upright, otherwise the child is dragged along, swinging upon one arm, with the weight of the body suspended by one side only. Lifting a child by both arms is dangerous, for it strains the ligaments and often occasions injury to the collar-bones; by which it gives pain. A child ought to be lifted by placing the hands round the waist. A child of a year old can raise itself by its arms, but it never prolongs or forces its effort to the production of pain. The only danger arises from a fall against the furniture.

As soon as a child can walk safely and comfortably, it is only necessary to provide against walking too much at a time when taking out-door exercise. While playing about the room, there is little occasion to guard against over-fatigue, because the child, guided by its feelings, either lies down on the floor at the first sense of weariness. This source of rest it ought freely to enjoy, while its constant change of position calls the various bones and muscles successively into exercise, so that none are exhausted. When out of doors, this rest can not be obtained, ex-

**in** warm, dry weather, and in fields or gardens. At other **times**, and in various situations, the nurse's arms must be **the** substitute; and she must remember that, although the **child can** walk, the power is newly acquired, the bones are **still** soft, and the muscles delicate.

Most children are disinclined to proceed along the road-side with regularity, and prefer to sit down or to stand still. On this account they must be tempted along by a **ball**, a rolling stone, or any toy that beguiles them on. Ingenuity must be set at work to devise variety, and **apply** that which is fitted for the purpose at the moment it is wanted. The exercise thus obtained will be more serviceable to the child, and less irksome to the nurse; for, even at this early age, judicious employment of the **senses** promotes a healthy condition of the functions, and prevents the painful languor which follows upon the mere mechanical motion of the limbs. There are always sufficient objects of attraction, whether the exercise be taken on the high road, in the fields, or in a garden; but numerous and interesting as they are, the child soon ceases to observe and to enjoy, if the notice of his nurse does not assure him of her attention and sympathy. Where two or three children are together, attention and sympathy are still to be given. These will only have to be addressed to many instead of one, and to be adapted to the nature and age of each child.

Mothers ought, if possible, to superintend the out-door exercise of their children. The duty of doing so is almost universally consigned to servants, who, even though well disposed, are not prepared by education to understand the nature of their duties. Children will learn much from the occasional example of a mother who is practically wise. It is not yet considered a duty among women to take daily walking exercise—household occupations and sedentary employments are regarded as more important. Yet, surely, the preservation of health is a duty. Want of time is urged in some cases as the obstacle,

their attention to objects calculated to instruct their infant understandings. The mother will in this manner be more attentive to that of her children. The prevalence of idleness or want of time is often derived from a common feeling of indisposition to exertion and exercise. It is necessary to repeat the exercise inefficient from want of use; exertion, and gradually increased, will give power. Nature intended them to promote the undertaking than children? what more delightful and salutary than to direct and aid that which is to promote mental and physical health and vigor? The mother should stimulate the disinclined to exertion, and of idleness. Trees, flowers and animals are indeed, but so simple in their great utility, and so liably fitted to delight and advance the education of children. A mother's tenderness will sow from these sources an increase of knowledge, and sow the first seeds of religion in the heart of nature, which shall gradually be improved by Nature; while she herself derives pleasure and advantage of being associated in her children.



Some undue exposure. It is true, there may be some slight attacks of indisposition, but these pass off with but little or no medicine. Exposure or sudden changes of temperature will, if the child is not properly protected, give rise to colds and diseases of the respiratory apparatus; and improper food, or sudden changes of diet, will cause derangement of the bowels, and disorder of the nervous system. The second summer, when the food of the child is changed from fluids to solids, is very frequently the period of greatest danger—summer complaint, the great destroyer of children, prevailing at this time.

### FEVER.

Fever is the principal disease of childhood; whether as simple fever, fever complicated with local disease of some organ or part, or a result of local disease, it will make at least eight-tenths of the cases we meet. If, therefore, we can recognize the different conditions of fever, and know the remedies that will meet them, we can not but have a successful treatment for children.

If a mother finds her child restless and fretful, and when she puts her hand upon the surface, she gets the sensation of increased heat and dryness, she can say the child has fever. This is frequently evanescent, passing away in three or four hours, or at farthest a day, or it may be more persistent, lasting some days, or if badly managed weeks. In the latter cases, the restlessness increases, the surface is hotter and dryer, the appetite is impaired, the bowels are irregular, the urine is high colored, the child does not sleep well, and it sensibly loses flesh from day to day. The physician determines the condition of fever, to some extent, by the pulse, and every one should learn to recognize at least the element of frequency, and the gross changes of smallness, fullness and hardness. In fever the pulse is fre-  
quency—and as a rule the fever is to

do see something else, do not forget the most important part of the disease. I do not know the difference whether you can detect the fever it is, at least at first. What we know is, what we have to do, and that will be told us by the symptoms. I collect that the gravity of the fever, the heat and dryness of the skin, the force in the character of the pulse, and the action of the nervous system—whether it be of the brain or of the system.

The prominent remedy in the treatment of childhood is aconite, and the manner in which who prepares and gives it as he can. In a glass of water add two to five drops of aconite according to age, and give a teaspoonful. The action of this remedy may be followed by a bath, repeated once or twice a day. In a child, and sometimes a hot foot bath, is the object.

I dislike to do anything that a child does. I find the irritation of the nervous system does more harm than some of the remedies. Thus, unless a bath is well given, it is of little use.

**lies**, for if we observe closely, the symptoms will point **us** to the medicine. This is usually added, the aconite **being** continued as a part of the treatment.

If the patient is very restless, does not sleep much or **well**, has a flushed face, bright eyes and contracted pupils, we add Gelseminum. Say, to a half glass of water add two to five drops of tincture of aconite, and five to ten drops of tincture of gelseminum, and give a teaspoonful every hour.

If the little patient is drowsy, sleeps too much, or sleeps with its eyes partly open—drowsiness being the principal symptom—we add belladonna. Say, to half a glass of water add tincture of aconite three to five drops, and tincture of belladonna five drops, and give a teaspoonful every hour.

If the child draws the feet up or shows other evidence of pain in the abdomen, the tissues being full—not pinched and dry—or it has nausea or vomiting, or its face is puffed and shows some yellowness, we would add nux vomica. Two drops may be added to half a glass of water and given in doses of a teaspoonful every hour, alternated with the aconite.

If the child wakes out of sleep with a sharp cry, the skin of the forehead contracted, the hand raised to the left side of the head, the face flushed bright, the tongue pointed and red at tip, add rhus. Say, to a half glass of water add from two to five drops of tincture of rhus, and the same of tincture of aconite, and give a teaspoonful every hour.

If the child is restless, suffers from irritative cough, and the right check is flushed, add bryonia. Say, to a half glass of water add two to five drops of bryonia, and the same quantity of aconite, and give a teaspoonful every hour.

If the child shows depression, its lips are purplish or dark colored, the tongue covered with a dirty fur, the tissues of the mouth full, the stools unpleasant, the bowels



...to a glass of water  
spoonful of bicarbonate of soda, and  
as much as it will. The strength should  
be just that which will render it pleasant  
in these cases, if the water is kept  
object to it.

If a fever persists, several parts of the  
face full and pallid, the face pallid,  
tongue full and pallid, I should give  
santonine, in the following proportions:  
gr. j; santonine, gr. x; white sugar  
powder thoroughly rubbed up, and  
parts, of which one may be given  
day. If the child has worms, this  
will drive them away.

If the child seems oppressed  
heavily, and its face at times shows  
or leaden hue that indicates difficulty  
is much rattling in the chest or that  
the case is severe, five or ten drops of  
little water at first, and then a teaspoonful  
may be added to the half glass of water  
and give a teaspoonful every hour.

When the tongue is broad and  
breath bad, we give sulphite of soda.

In some of these cases there is some pain in the bowels, and a desire to go to stool, without passing any thing.

When the bowels are loose, or there is a tendency to diarrhœa or dysentery, we add ipecac. Say, to half a glass of water five to ten drops of tincture of ipecac, and two to five drops of tincture of aconite, a teaspoonful every hour.

We want to know when to give quinine, and when to let it alone. It should never be given when the surface is hot and dry, when the face has a pinched expression, when the child is restless and irritable, or when the pulse is frequent and hard. It may be that quinine will be a remedy, possibly an important one in such a case, but we always use a preparatory treatment, as heretofore named. Quinine is the remedy in malarious regions where ague and bilious fevers prevail, the fever showing distinct periodicity. Thus, if there is a regular recurrence of fever once a day, or twice a day, or even if it keeps coming back at longer intervals, we say that the patient needs quinine. We give it when the pulse is soft, the skin soft and moist, the tongue moist and cleaning, and the nervous system free from irritation.

It is best to give the remedy in a single dose, if possible, as it is unpleasant to take. If the patient is prepared for its use, the one dose is usually sufficient. The dose for a child a year old will be one grain, two years old two grains; then adding one grain for each two years will come near the proper dose.

When children can not take quinine by mouth, or when they are delicate or nervous, we use the remedy by inunction—rub it in. We order one drachm of quinine rubbed up with two ounces of lard, and thoroughly grease and rub the child with it twice a day. In very stubborn cases, when the fever has continued for a long time, just severe enough to cause loss of flesh and strength, the rubbing with quinine and lard is the best treatment.

**AFFECTIONS OF THE RESPIRATORY APPARATUS.**

These have been considered at some length in the volume, and they need not be repeated here. As noticed there, croup was of most frequent occurrence. Next in frequency we have bronchitis and inflammation of the lungs, neither of which differ materially from the same diseases of the adult.

In ordinary practice it does not matter whether we distinguish pneumonia from bronchitis, as the treatment will be the same. As an external application, I would strongly recommend a cloth spread with lard and sprinkled with compound powder of lobelia, No. 6; or if the cough is dry, the skin dry and hot, use the lard alone.

Internally, if the cough is dry and hard, the skin and the extremities hot, add three to five drops of aconite and five drops of ipecac to half a glass of water and give a teaspoonful every hour. If the cough is moist and there is evident pain, use the aconite, with bryonia, three to five drops, in place of the ipecac. But if there is free secretion, with rattling of mucus, and difficult respiration, lobelia is the remedy. It may be used alone, the aconite, or if there is much oppression of the chest it may be given with a stimulant, as—*R*. Tinct. lob. ʒj; comp. tinc. lavender, ʒiij; simple syrup, ʒiiss. Give it to the child in small doses frequently repeated, with catnip tea.

As an internal remedy, ipecacuanha may be given in small doses. I usually direct it in the following manner: Take ipecacuanha, five grains; white sugar, one drachm; mix thoroughly and divide into twenty portions. These may be given as often as one every hour, and should they produce too much sickness of the stomach, each powder may be divided into two parts. I have frequently treated the severest cases of inflammation of the lungs in children with this alone. Any of the remedies recommended under the head of bronchitis or inflammation of the lungs, in volume 1, may be used.



**DISEASES OF THE DIGESTIVE ORGANS.**

the digestive organs of the child are more frequently engaged than any other part of its system. Any change from that which nature provides, is likely to induce derangements of these organs, and not unfrequently imminent of the mother's health will be attended with lar results.

**FANTILE DYSPEPSIA.**—Children, like adults, suffer from indigestion, and this in some cases is so persistent that it may be termed infantile dyspepsia. When nursing, the child frequently throws up its milk, if it has been taken too much, or if the stomach is not in proper condition to receive it. The shape and position of the stomach are admirably adapted to thus freeing itself of any material not properly appropriate.

When this vomiting becomes too frequent, and especially if attended with evidences of nausea and straining, we may consider that there is something wrong with the stomach. The trouble is still more severe when there is greenish, watery stools, and more or less pain, the child being cross and fretful.

In these cases it is of importance to look into the mother's diet, and see whether there is any thing in it that may account for the trouble. Even when the child is wholly dependent upon its mother's milk, we will not frequently find that the severest forms of infantile dyspepsia are dependent upon errors in her diet. It is sometimes difficult to convince a mother that this is the case, that what she eats produces so marked an influence upon the child; yet, it is a fact, and the sooner they become impressed with it, and discard the objectionable articles of diet, and live on plain nutritious food, the sooner they will get rid of the annoyance of an irritable, suffering child.

It is sometimes the case that the mother's health suffers with the child, no matter how

Occasionally, the trouble depends on the desire to feed, and an excess of food taken. It often happens that the child is content when sucking; and when it has finished, it seems very uncomfortable until it is again put to the breast. Relief thus given is immediately followed by the desire to suck again, and it is thus that the mother controls its stomach, and never giving the child any rest. The remedy in these cases is to control this species of gluttony, and not to give too much, or too frequently.

If it becomes necessary to administer medicine to correct this, it will be advisable in most cases. An infusion of peach-tree bark is before recommended, answers a good purpose. A solution of the compound powder of rhubarb will answer in very many cases.

**COLIC.**—This is a very distressing complaint in children, and is frequently an occurrence. It may be occasioned by a variety of causes, such as food, some derangement of the nervous system, from neglect of the nurse to keep the child from very frequent occurrence in children fed on artificial food, and will attend a child on food, or arise when the food is not

night, and it will be impossible to trace it to any apparent cause. The child will take the breast and nurse freely, and the mother will furnish an abundance of milk of seemingly good quality, but from some reason the child's stomach can not appropriate it, it becomes acid, gas is generated, and severe colicky pains are the result. These cases should be treated as named for indigestion.

**TREATMENT.**—In these troublesome cases, always avoid giving medicine, if possible. There is some cause for the colic, which, if you can discover and remove, the trouble will be at an end. The mother should pay strict attention to her diet, and in a short time she will be enabled to determine whether any articles of food she has been using has given rise to it. If the child is being raised on artificial food, and cow's milk is given it, institute an examination into the health and habits of the cow, and the cause of the difficulty may be discovered, and changing the source of supply will remove the trouble. I have had many cases in my practice, of children suffering from indigestion, colic, fever, and marasmus, in which all medicines given for the cure, failed of giving any relief, but in which an investigation has shown the cow to be unhealthy, or fed on unhealthy food, as decomposing vegetables, still-slops, etc. Changing the milk in these cases, obtaining that which was fresh and healthy, has speedily accomplished a cure. In other cases the vessels in which the milk was obtained and kept, or the nursing bottle, would be allowed to become sour, and this would prove the cause of all the trouble.

In some cases it will become necessary to entirely change the child's food. Thus, if it is nursing, it will have to be weaned and fed with milk. If it has been taking milk, some of the other articles of food heretofore named must be substituted for it. Proper attention to these points will frequently obviate the necessity of giving medicine. Without it, medicine is usually given to little



ions, sometimes gives speedy relief. To answer the purpose, use the warm water for fifteen minutes. Internally, a tea of lemon every two or three hours, until it operates, will be of advantage; or if there is no action in the stomach, magnesia may be used in a decoction of spearmint, sweetened, will be as efficient as any thing that can be given. A warm bath, warm, will sometimes answer the purpose.

Never, under any circumstances, give a large preparation of opium, as it may do more harm than injury. Paregoric, Godfrey's cordial, and all the mother's cordials, or any other for this purpose, no matter what quantity of opium, and are all equally objectionable. They bear the annoyance of a restless child, and that which is not only dangerous to the body, but may entail lasting injury, not only to the health, but also in its mind.

Cholera infantum, or summer complaint, was fully described in volume I, under the name of affections, and the reader is referred to that article for treatment.

in the adult, and in many cases the constitutional effect is much more marked.

Occasionally, diseases of the skin seem to answer a vicarious purpose, and relieve the system of some morbid matter, which, if retained, would produce disease. When we have any reason to believe that this is the case, no attempt should be made to cure them until means are instituted to remove the constitutional disease that they are connected with. In other cases, when the eruption has been of long duration, it will not be safe to arrest it immediately, but means should be made use of to increase the natural excretions, and the eruption stopped gradually.

**MOTHER'S MARK.**—It is generally supposed, and I think with truth, that certain impressions made upon the mother's mind during pregnancy, will affect the growth and structure of the child, and in some manner deform it. It is true, that we can not account, in a rational manner, for any such occurrences, but the instances are so numerous that we can not dispute the connection between the impression and the mark. As heretofore noticed, there is not more than one child in a hundred marked when the mother anticipated it, and we are very often asked by the anxious mother whether the child is "all right," under the impression that it will be marked.

Numerous instances are related to prove the relation between the impression on the mother's mind, and the deformity of the child. The severest case of the kind that ever came under my knowledge, was a child born with a hand so completely deformed as to be useless, and which was attributed to the mother's witnessing the dressing of a hand that had been crushed in a threshing machine. The most common form of mother's mark, is a discoloration of the skin, from an increase of the size of the blood-vessels. It may be located on any part, and in some cases increases in size as the child grows. If  
to face or neck, it is sometimes a very

great deformity. Occasionally, it forms a reddish tum excessively vascular, projecting from the surface, and not only very objectionable, from its appearance, but tender, easily injured, and sometimes the seat of pain.

A case came under my care of a child that was marked on the cheek immediately below the eye. The mother attributed it to her husband's throwing a cherry at her, which, striking upon the same part of the cheek, burst, and not only startled her at the time, but firmly impressed her mind that the child would be so marked. When I saw the little girl, then two years old, the mark was about as large as a dime, as red as blood, and slightly elevated above the skin. I removed it with considerable trouble, much to the gratification of the parents. In another case, the child, then thirteen years old, had a mark covering a considerable part of the face on one side. The mother attributed it to fright, from hearing of a neighbor who had cut his throat. It had grown so large that nothing could be done for it.

These cases are very difficult of treatment, on account of their vascularity; indeed, some children have lost their lives from hemorrhage during an operation. The growth should be removed early in life, if it is noticed to grow; it is then much easier accomplished than if allowed to become large.

SHINGLES.—This disease, technically called *herpes zoster*, may attack the young or the adult, though of most frequent occurrence about the age of puberty. It makes its appearance upon some part of the trunk in the shape of a group of small vesicles, the skin being reddened some distance around. They continue to come out at new points, until the eruption has traveled half way around the body, or in some cases entirely around it. It is a popular superstition, that if occurring on both sides it will prove fatal if they meet, thus encircling the body. There is no truth in this, as the disease is rarely or never attended with danger. It is usually attended with considerable



iderable fever, and the patient feels badly for several days.

**TREATMENT.**—But little treatment is necessary in most cases. The child should be bathed daily, and the foot bath should be used when there is much febrile action. Give a dose of castor oil or some mild purgative to open the bowels, and if the fever is troublesome, aconite, and an infusion of pleurisy root, may be given, as heretofore recommended. If there is much irritation at the point of eruption, dust it with scorched flour, or wet it with sweet cream.

**RING WORM.**—This eruption most commonly makes its appearance on the face and neck, in the form of small vesicles, situate in a ring, sometimes quite small, but at others it will be as large as a dime, a quarter of a dollar, or even larger. The spot is reddened, and sometimes slightly elevated, and gives rise to a troublesome itching. In many cases it will run its career in a week or ten days, and this needs no treatment. When it is chronic, and lasts for a long time, it is recommended to paint it with tincture of iodine. A simple domestic remedy is to apply a slice of onion to it each night.

**ITCH—SCABIES.**—In former years the itch was quite a common disease, and very few families of children were raised without having more or less trouble with it. At the present time it is of somewhat rare occurrence, as more attention is paid to cleanliness, and an avoidance of the contagion.

The itch is caused by a small insect or worm, which burrows in the skin, and is called the *acarus scabei*, or *itch insect*. The disease is propagated from one to another by the transmission of this insect, either by contact, or by the clothing, beds, or the use of towels which have been used by those suffering with the disease. It usually makes its appearance first upon the back of the hands, between the fingers, and the anterior part of the wrists, though it may extend to all parts of the surface where the skin is

The disease derived its continued and unalloyed sensation of pain experienced, and which is more pleasurable than otherwise.

**TREATMENT.**—The itch is usually more severe, when bad, or when improper in time it may be got rid of with general treatment, I would advise the following ointment: as, take sublimed sulphur, one ounce, and wash the parts thoroughly with soap and water, and then rub the ointment in the affected parts, and apply it at night before going to bed, and well the next morning, and putting on an internal remedy is deemed necessary, of five or ten grains, three times a day.

#### **ROSEOLA**

Roseola, or *rose-rash*, is a mild disease, continuing from one to six or seven days, and is attended with more or less febrile action. Though arrest of secretion and general debility are the most frequent. It sometimes terminates in a small

hey are very much crowded together, so as to give a general red appearance to the surface, but yet each one is well defined. They may continue for several days, or vanish and reappear for several days. Usually the fever is but slight, but the child shows symptoms of irritation, being cross and fretful.

*Roseola æstiva* is usually ushered in by marked febrile action, and in children delirium or convulsions sometimes supervene. The eruption usually appears about the third or fourth day on the face and neck, and in a few hours involves the greater part of the body. "The spots are of a deep red color, more irregular in shape than those of measles, and their original color soon passes into a light rosy hue. There is also present a considerable degree of itching and pain, and often difficulty in swallowing." The disease runs a very variable course, but the eruption usually disappears in three or four days without desquamation.

*Roseola annulata* comes out in the form of rose-red rings, in the center of which the skin retains its natural color; it is said to be principally observed on the abdomen and buttocks. It is not usually accompanied with much fever, but is occasionally very persistent, and is usually associated with gastro-intestinal irritation.

**TREATMENT.**—Give the child a warm bath, as heretofore recommended, or in its stead the child may be thoroughly sponged with the alkaline wash, and have a hot foot bath. Give internally aconite in the usual doses, three to five drops to half a glass of water; with belladonna, five drops, if the child seems sleepy or stupid; or with rhus, three drops, if the child complains of burning of the surface, or there is much nervous irritation.

### ERYTHEMA.

Erythema is one of the mildest of the exanthemata, and usually is not accompanied with febrile action, though in the severer cases there is arrest of secretion and some



ments.

SYMPTOMS.—The disease appears of variable size, of a light, super effaced by pressure, and most frequent on the face and limbs. In some cases they spread over a considerable portion of the body. One form, termed *erythema nodosum*, is a constitutional disturbance, and consists of large patches, from half an inch to an inch in diameter, generally on the lower extremities. When fully developed, they are slightly elevated above the skin, and in a few days form small abscesses which seem inclined to suppurate, but they usually give a suspicious sense of fluctuation without any change of structure. The first form lasts but a few hours, or in rare cases a few days; or three weeks; the second usually lasts three to six days.

TREATMENT.—But little treatment is required in the simple form of the disease. The face may be washed by equal parts of compound powder of calomel and pound powder of jalap, or with the face should be bathed with a weak solution of potash, and in some cases we

**ERYSIPELAS.**

Erysipelas is undoubtedly a disease of the blood, and should be classed with the eruptive fevers, though not contagious, except in exceptional cases. It may occur at any age, though it is more frequent in adults than in children. The causes of erysipelas are obscure, though it is probably occasioned by cold, arrest of secretion, etc., as in other forms of fever. It occurs most frequently in the spring and autumn, and in persons of a fine delicate skin. Occasionally it becomes epidemic in a neighborhood or section of country, and in other cases highly contagious, as in large hospitals. I have known surgeons who had to suspend all operations, even the most simple, on this account, for weeks, as almost every case operated on would have erysipelas.

**SYMPTOMS.**—We distinguish two forms of this disease: the first being superficial and affecting the skin alone, while the second is termed deep seated. The first is preceded, or in other cases shortly followed, by a well marked chill, to which succeeds febrile action. In some cases the fever is slight, but in others it is as intense as in the continued fevers. With the commencement of the chill a circumscribed redness of some portion of the skin comes up, and in a few hours becomes slightly swollen, hot and painful. The redness is generally deep, but is affected by pressure, though from the exquisite tenderness of the part, the patient will rarely permit it. As the disease continues, it usually extends slowly to adjacent parts, the advance of the inflammation being marked by slight swelling, pain and tenderness on pressure. In this way, commencing as a small spot on the face, it sometimes extends until it involves the entire face and scalp.

Frequently in the course of two or three days the epidermis is loosened and distended with a yellowish serum, forming bullæ of larger or smaller size, and these rupturing pour out their secretion, and sometimes become

covered with thin incrustations. The redness fades, and the inflammation commences to disappear the fifth or sixth day, leaving the epidermis wrinkled yellowish, and at last it desquamates over the entire face. This form of erysipelas may appear on any part of the body, but is far more frequent upon the face and extremities. The fever is in some degree dependent upon the extent of the eruption, though in severe cases where it is comparatively slight it will be very severe and of the asthenic form; delirium sometimes occurs where the face and scalp are affected.

The other affects not only the skin, but the cellular tissue, and in some cases, the entire structure of the part, and is proportionately more severe. It results more frequently from injuries, as bruises or punctured wounds, but may be idiopathic; it occurs most frequently upon the extremities. In many cases the disease is ushered in with a chill, to which succeeds febrile action. Occasionally the fever is very intense, the tongue becomes dark coated, the pulse hard, small, and frequent, the bowels irregular, urine scanty, high-colored and with low muttering delirium. The local disease commences as in the other case, with heat, pain and redness, but is soon observed that the swelling is much more extensive. When the disease is fully developed the pain is intense and the patient can not bear the slightest pressure upon the part, which seems to be swollen to its fullest extent. During the course of from three to five days, the redness and heat subside, and the part gives a doughy sensation on touch, and is, if anything, more swollen and painful. Small purulent deposits are now noticed, which, when being opened, at first discharge a healthy pus mixed with flakes of broken down cellular tissue, and afterwards in some cases, a reddish flocculent material. When the disease has been severe, a large portion of the cellular tissue will have lost its vitality, and will be discharged in this manner, recovery being slow.



**TREATMENT.**—In the milder cases, and even in those more severe, the treatment may consist wholly of the nature of muriate of iron, five drops every two or three hours internally, and applied locally, diluted with one to three parts of glycerine or lard. If the fever runs high, and the pulse is full, I prefer veratrum, five drops to half glass of water, a teaspoonful every hour, with a local application four times the strength. If the pulse is small and hard, and the patient complains of severe burning in the part, I should use aconite and rhus, three drops of each to half a glass of water, a teaspoonful every hour.

When there is much irritation of the skin, a soft cotton cloth spread with lard, will form a very good application.

#### **DEFORMITIES AND DISTORTIONS DURING CHILDHOOD.**

Some children at birth exhibit deviations from the ordinary structure of the body. In some cases such defects are capable of cure. It is the province of the surgeon to determine what may or what may not be done; but it is the obvious duty of parents to avail themselves of the power of art in such cases, and to sanction any operation which may promise to relieve their children from awkward and annoying peculiarities of form. The proper period for such operations must also be determined by the surgeon. A mother's apprehensions are naturally excited, but the tender frame of an infant should be unequal to support the infliction of pain; but she will be reconciled to the propriety of early adopting the necessary remedies, when she is aware that the increasing intelligence of the

infant renders it more sensible to the pain and fear attendant upon operations, and that its comparatively quiet and quiescent state is favorable to the cure of a wound.

Some children are born *tongue-tied*, the tongue being much bridled to the bottom of their mouth, by which they are prevented from sucking properly. If not removed, this peculiarity will impede their utterance in after life. It is the duty of the nurse to mention to the medical attendant that there is such a defect, and he will remove it by a slight cut with a pair of scissors. Some nurses are so heedless as to see their children suffering for weeks and months, and even languishing, from this easily remedied evil, without taking the trouble to correct it. The event of children being born with a *hare-lip*, as it is called, or any similar malformation, or with a redundancy of number of fingers or toes, the medical attendant is permitted to remedy the defect at the time he deems proper, but, generally speaking, the more early these such peculiarities are removed, the better.

The deformities and malformations found at birth are not so frequent as those which occur afterward. Some are either the consequences of predisposition to disease, or are inherited from parents, and increased by bad nursing; others are altogether the result of accidents, neglect, or vicious management. Parents are obviously bound to take every reasonable precaution, in order to guard their children from the occurrence of these inflictions, and, when they occur, to endeavor to repair or subdue them. A child to possess a perfect frame of body is unquestionably one of the greatest of blessings, if it were for no other reason than its rendering us agreeable objects to our fellow-creatures. The want of it has the contrary effect, and is apt with some natures to lead to moral deformity also. It is a melancholy truth, that a personal defect, instead of exciting compassion and kindness, but too often marks the individual so afflicted a mark for ridicule and contempt. No one can be wholly callous to the efflu-

such a misfortune. A man of amiable temper *feels* the pang inflicted, even if he forgive it. The mere dread of ridicule has irritated many minds into a sentiment allied to misanthropy, impelling them to peevishness, pitilessness, malevolence, and all the peculiarities implied in the term bad temper—to splenetic views of life, with its attendant doubts and dissatisfaction. The conduct of the diots and deformed beggars who frequent our towns and villages, a mark for the gibes and assaults of the ignorant, testifies to the truth of these remarks; while there are evidences among the educated and the talented of the mental deformity caused by bodily malformation. In addition to these considerations, it may be observed, that deformities very much limit the power of self-maintenance.

Parents who are themselves afflicted with hereditary disease, or are aware of ancestors and kindred who have showed symptoms of such disease, are particularly under the obligation to watch their children, in order that the first bad appearances may be met by the proper remedies. Scrofula often affects the bones of young children. From other causes there may be a deficiency of the earthy elements in the bones, rendering them soft, and thereby more liable to injury. The necessity of giving support to the back and loins in carrying an infant, and not allowing it to put its weight upon the legs on first learning to walk, has been already treated, as well as the danger of *forcing* children to use muscular exertion. Wherever there is hereditary predisposition to disease, increased vigilance is needed, and increased attention to the laws which have been found to promote health. The effects of a want of pure air, warm unconfined clothing, regular hours, proper diet and cleanliness, are seen in local weaknesses, as well as in internal and cutaneous disorders. The disease called the *rickets*, which is a modification of scrofula, and may be productive of distortion of the person and limbs, is to be counteracted by peculiar medical treatment, calculated



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e child was undressed, and on watching the action of the limb, it was found that the boy had, from some cause other, contracted this habit, and that he avoided as much as possible all use of the left knee; the muscles are consequently weakened, slightly shrunk, and comparatively useless. An exercise was immediately adopted which brought the weak muscles into gentle, continuous use, and at the end of six weeks the limb was perfectly restored. It is necessary to add, that the father himself superintended the exercise. Had the altered gait escaped early notice, it is probable that bandages or irons would have been required as remedies. This fact will serve as an example of the kind of attention and treatment recommended to parents. Similar instances could be added to show that incipient distortions may often be overcome by attention, good sense, and perseverance.

Bad habits, or tricks, as they are called, often produce distortions during the whole period of growth. Before running alone, infants often creep along the floor; a salutary practice when the limbs are employed equally. It is not unusual to see a child make use of one leg only to help itself along, dragging the other after it, as if it were useless; the muscles of the unused limb consequently become flaccid and weak; and when the attempt to walk is made, a limping gait is contracted, and the weak limb becomes permanently debilitated. In such a case, creeping could be wholly prevented, or at least, when the injurious habit is forgotten. On first running alone, all may produce slight injury, the pain from which may be escaped by avoiding the use of the injured part. If the child thus adopted escape observation, the disease is not cured. If the diseased muscles grow weak, and a more violent exercise the additional work cannot be done, the limb or joint is the more injured, and the deformity is established. No remedy is established. No remedy is established.

Children are apt to assume a habit of walking on the

carefully watched, so that the correcting curvature may be taken. The medical attendant should be consulted to state here the result of experiments under our own observation—that children who are bent be able to walk, and can stand on ground, the limbs should be subjected to a gentle restraint from a steel and leather band, which generally brings them in a few months to a perfectly straight condition. If the child will, in all likelihood, have been cured.

Children often contract injury from falls, or concealed by individuals immediately after the accident, and maladies may begin to progress, but do not appear conspicuously till they have advanced to a considerable progress. When children are under the influence of a fever, it is advisable to encourage them to run, jump, kneel, sit down, rise again, etc. The mother should herself observe the action of the muscles, and so be enabled to detect the first symptoms of the marks of any hurt, or the evidences of inflammation or distortions, whether they arise from bad habits of muscular action. If a remedy may be more easily applied at an early period, it may be necessary, and



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Children are apt to accustom themselves to use the

left hand more readily than the right, and so become is termed left-handed. Left-handedness is always of careless nurture, for no species of imperfection is so easily guarded against. When the child begins to use a spoon, or to handle any object, let care be taken that it use the right hand chiefly, and also accustom it to use both hands only by that hand. By these means it will learn that the right is the proper hand to employ, and this respect will grow up faultless.

The tricks contracted by children create unequal evils. It is by no means unusual for them to stuff their fingers up their nostrils, or into their ears, produce tumours and deafness, or rupturing some of the vessels of the nose. All habits which distort the countenance (as, for instance, over-distension of the mouth by using a large spoon, or otherwise) are better checked at their earliest manifestations; they are not only disagreeable to the witness, but they confer an unpleasant impression on the countenance. All persons are influenced by physical deformity, and there can be no doubt that the preservation of graceful forms of feature, so often found in children, is one of the duties of a mother. The doing this is to cultivate personal vanity; self-respect demands a care of the person, and this care naturally extends to the avoidance of every habit destructive of general propriety of appearance.

It is of great importance in rearing children, to guard against all physical calamities; but as this is not always possible, the next important step for parents to adopt is a judicious and judicious employment of remedies. Mechanical contrivances are found very effective in restoring the position and shape of the limbs. Their application, though apparently distressing to the patient, should be persisted in, upon the principle that any suffering they inflict is short and trifling in comparison with the untimely death, ill health, and helplessness, entailed by neglect. Steel and leather bandages present a disagreeable

ance, but as the mother knows their utility better than the child can do, it is her part to set an example of patient fortitude. And while she soothes the patient, she must be careful that her tenderness does not weaken the power of endurance; nor must she resign the control which is not only necessary to the moral welfare of the child, but to his bodily restoration.

Curvature of the spine is the most frightful of all distortions. The danger to which the spines of infants are liable, arises chiefly from carelessness or ignorance on the part of their nurses. Hurts from a fall or blow have often serious consequences, but these are sooner discovered than the slow but unceasing destruction proceeding from bad nursing. A child who is constrained to keep the same position for more than a few minutes, who falls asleep while carried erect, who is wearied out by irregular hours, is always in danger of loss of health. It depends upon the nature of the constitution what form the evil takes. Paralytic disorders of the lower limbs of children generally proceed from some spinal affection. When disease of the spine affects a child who has been able to walk, the loss of the use of the legs is gradual, though not very slow. He at first complains of fatigue, and is unwilling to move about, and soon after frequently trips and stumbles, although there is no impediments in his way. In attempting to move briskly, the legs involuntarily cross each other, and he frequently falls; while in trying to stand erect, even for a few minutes, the knees give way and bend forward. As the disorder advances, the child can with difficulty direct his feet to any precise point. Where children have not begun to walk, there is debility in the lower limbs, which forbids their use.

Two striking instances of deformity, occasioned by hurts of the spine, have fallen within our own observation. In the first, the child had crept under a pianoforte, and, on returning from beneath it, rose before he had cleared the edge of the instrument. He struck the mid-



dle of the spine, and in a few years became hump-backed to a deplorable extent. In the second case, a child had just acquired the power of running alone, was pulled on his feet suddenly and violently by his nurse; he suffered with pain for awhile; in a short time lost the use of his legs, and ultimately became a cripple and deformed.

Curvature of the spine is not so often found in young children as in girls of six or eight and up. It is mostly found to arise from tight lacing, sedentary employment, insufficient exercise and undue mental exertion. The disorder has hitherto mostly afflicted the daughters of the higher classes; but it has been observed of late by an intelligent individual employed in mechanical contrivances for the correction of distortions, that curvature of the spine is frequent with daughters of small tradesmen and artisans, who, having only one or two children, desire to advance them in life beyond their own class. To this end they laudably and rationally desire to bestow on them what they understand to be a good education. The error lies in the misconception of the term. The girls are spared from active household duties and sent to school, with the impression that they must study hard. Exercise and fresh air are neglected. The impure atmosphere, the hard narrow benches of the school-room, and the stooping position assumed in writing, ciphering, and needle-work, together with the long hours passed at the pianoforte, add to the probability of it. On leaving school, the tight lacing is increased, and sedentary necessarily forbids sufficient exercise. In many girls on leaving school are apprenticed to some business where they ply the needle from ten to twelve hours a day with an interval of an hour for dinner, and half an hour for tea. Parents will do wisely to consider how far the welfare of their daughters is likely to be advanced by the risks of disease are so great.

A defect, however slight, should never be regarded as too insignificant to deserve attention; neither should

formity or malformation be looked upon as incurable, all time and experience have proved every endeavor useless. It is quite certain that much may be done by mechanical means, and it is equally so that care and attention will prevent the further progress of a distortion, even if they do not remedy it. Facts are more convincing than arguments. A delicate girl of six years of age falling into weak health, her parents observed that one of the vertebrae of the neck started out beyond the rest. This was attributed to general debility, and change of air, with increased nourishment, was advised. Notwithstanding these measures, the other vertebrae of the neck gradually curved outward, the chest contracted, the head leaned forward, and growth was apparently stopped, while the general health became so materially worse, that death seemed inevitable. The probable effects of mechanical aid had been overlooked or deemed hopeless; although four years had elapsed since the first symptom of distortion was observed, they were now resorted to. The child was laid upon a mattress, with weights attached to the neck and around the body, so arranged as to keep the whole person elongated, and the chest expanded. At the end of five weeks there was an alteration of form sufficient to justify the hope that if the child's health improved, the deformity might be greatly, if not wholly, overcome. At present, the general health is in a better state than when the child was first placed on the mattress.

A premature use of the brain in childhood is a fertile source of weakness and disease. Precocious children generally die before they attain maturity, or dwindle below the ordinary standard of intellectual power. Precocity is frequently the result of disease. Wherever it is manifested, parents will do wisely to repress the love of study, and to encourage bodily exercise. The brain, during infancy and childhood, is very soft, and almost liquid under the finger, yet supplied with more blood in proportion to its size than at any subsequent period, and conse-

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Healthy children are continually



ment; and if it be withheld by any cause during the period of growth, the body is often crippled, or at least never acquires its due form and proportion. The sedentary employment of girls, and the unfortunate notion that all active sports and exercises are indecorous, occasion early weakness of the body, especially in the back. To remedy or prevent this, strong, stiff stays are put on at an early age to support the back, as it is said, but which, in reality, by superseding the exercise of the muscles intended by nature as supports, cause these to lose their strength, so that when the stays are withdrawn, they are unable to support the body."

The constant change of position which children adopt, is evidently to give alternate exercise and repose to the muscles. To sit still and upright, is really painful to them; left to themselves, they rarely carry their exertions beyond the point of healthy fatigue; and as soon as they feel this, they spontaneously throw themselves on the floor to obtain the necessary repose. It is not the *doing* this, but the *way* in which it is done, which constitutes indecorum; and it is this point whereon a mother's instructions may advantageously be given.

The ill health or temporary ailments of children often prove a source of moral evil to the sufferers. Indisposition renders them fractious and impatient; the indulgence of violence or fretfulness necessarily impedes recovery; and to avoid arousing these feelings, parents often humor and coax their children. Additional tenderness and unremitting attention are necessary from the mother or nurse; but these may be afforded without the slightest relaxation of moral discipline. The control of the parent is as needful in sickness as in health. An ailing child is often a spoiled child; expecting the gratification of every whim, and yielding to alternate fits of violence or peevishness. A sick child is but too often persuaded or deceived into taking medicine, when he should be directed by the calm, honest steadfastness of a parent's authority. If he

once obtain the victory, or has reason to suspect imposed upon, he will become unmanageable, deceit with deceit. The observance of the duties of a parent during illness is no source of pain, but that calm reliance upon the sense, affection and the parent, most favorable to recovery. To these we may add, that the severity and coercion necessary to restore a convalescent child to the good conduct of health, is less needful than the needless indulgence in sickness has disturbed, more misery than any rational firmness to correct an invalid can inflict.

#### STAMMERING.

The organs of speech are, with rare exception, perfect, and calculated, by proper nurture and example, to perform correctly their assigned office. At the first efforts to speak, the child is a mere creature of imitation, and will acquire a tone and habit of speech in conformity with those of his instructors. It is of the utmost importance to avoid all improper modes of speaking before children, and in particular to keep them from acquiring the habit of stammering or stuttering. A defect in speech, besides being a ridicule to the child,

Cons are not sufficient, let the child, for a few minutes at a time, and frequently in the course of the day, repeat the vowels in a firm, strong voice, and afterward the consonants, singly, and variously combined with the vowels, and occasionally a few sentences fitted to his intelligence.

Above all things, patience is necessary. If, as is most probable, the child is nervous and irritable, any treatment increasing these feelings will also increase the propensity to stammer. Stammering is often caught by imitation. The means recommended above will best put a stop to a habit so acquired. To reason with, or forbid the little mimic, is not likely to quell the active propensity.

Stammering sometimes arises from any nervous disorder of the muscles of speech, particularly a spasmodic affection of the glottis, or narrow opening at the top of the windpipe, by which the air passes to and from the lungs. It is difficult to say how far young children may be affected by such disorders; but, however this may be, attention should be paid to strengthening the frame generally, while every means should be taken to acquire perfect articulation. It has been suggested by Dr. Arnott, that the glottis, during common speech, need never be closed, and if it be kept open, stuttering is avoided. In humming or droning any simple sound, like *e* in the word *every* (to do which at once is no difficulty to an habitual stutterer), the glottis is opened, and the pronunciation of any other sound rendered easy. If, in speaking or reading, the stammerer joins his words together, as if each phrase formed but one long word, or nearly as they are joined in singing, the voice never stops, the glottis never closes, and there is no stutter. Stutterers often sing well, without the slightest hesitation, for the glottis opens to admit the tone before the words of the song are pronounced, and does not again close. They also declaim and read poetry well, the uninterrupted tone being almost as great as in singing. Many persons speak in a drawling tone, and often rest on the simple sound of *e* mentioned



to check the early habit or hesitation that there is some spasmodic. With children the cure of stammering is much a matter of imitation; they catch the causes of their difficulty, nor the cure, but if the mother assume the duty, the method recommended by Dr. Arnott to cure stammering, the child can be brought to imitate her, and it is fair to presume that the effect will be permanent.

The broken English of infants is a common complaint. Parents are generally unwilling to correct it, but if the child's mispronunciation requires no more than a little time, it would be wrong to attempt to correct it, as the child's temper would thereby suffer. The mother, which ought to be contended against, is the cause of hesitation already remarked, lisp, and the sound the *r*. In order to overcome this, the mother should first ascertain by observation the positions of the lips, tongue, palate, and throat, which produces the various simple and compound sounds, and constitute the elements of speech. By observation to the child, discover the cause of the error, and employ the proper method. For instance, lisp, is the substitution of *th* for *sh*, in which case, the mother should pronounce the *sh* sound, and the child will imitate it.

mitted. *R* is sometimes pronounced like *l*, in which case the tongue goes at once to the palate, instead of being first thrust forward to produce the vibration. A small degree of care on the part of the mother or nurse will remedy these defects of utterance.

It is hardly necessary to offer any comment upon the importance of possessing a distinct articulation, free from any defects. The following passage from an eloquent writer will best advocate the cause, if, indeed, advocacy can be needed: "Speech is one of our grand distinctions from the brute. A man was not made to shut up his mind in itself, but to give it voice, and to exchange it with other minds. Our power over others lies not so much in the amount of thought within us, as in the power of bringing it out. A man of more than ordinary intellectual vigor may, for want of expression, be a cipher, without significance, in society. And not only does a man influence others, but he greatly aids his own intellect by giving distinct and forcible utterance to his thoughts. Our social rank, too, depends a good deal on our power of utterance. The principal distinction between what are called gentlemen and the vulgar, lies in this: that the latter are awkward in manners, and are especially wanting in propriety, clearness, grace, and ease of utterance." It is, therefore, for mothers to lay the foundation of the benefits to be derived from this "power of utterance." Where the articulation is faulty, the expression of ideas, however admirable they may be, will be ineffective, if not ludicrous.

### SQUINTING.

The eyes of an infant are for some time very weak, and can scarcely be said to be obedient to its will or inclinations. The mind being yet inert, the organs of vision roll about, as if by instinctive impulse. While in this unregulated condition, the two eyes may occasionally be observed to look different ways, or perhaps both

inward toward the nose. These affections, which frequently from the desire to look toward the light toward any object which captivates the infantile eye, should be in all cases checked, by simply holding the hands over the eyes, so as to cause them to shut, and a proper direction on being opened. So extremely is the child to squint in its vision, that this will so require to be performed several times in a day.

As the strength of a child increases, so does its power of vision; nevertheless, the mind being unimpaired, the eyes will continue for some time liable to derangement. Light shining always from one side, or the placing a knot of ribbon over one eye, will lead to a habit of looking obliquely, and therefore all such causes of derangement should, as far as possible, be avoided. The child must be guided in its efforts to look, as well as to see. It should be held fairly toward the light, or toward a bright object, and at such a distance as will accommodate the focus of its vision, and cause it to use both eyes. The habit of looking obliquely either with one eye or both, is that which has to be chiefly guarded against, and corrected when it occurs. Obliquity of vision arises from natural defects, but that is seldom the case; in every instance squinting is a result of sheer carelessness of the mother or nurse.

When the child's faculties are advanced, it may acquire a habit of looking with one eye, while the other is shut. The effect of such a habit being to strengthen the eye unduly, and weaken the other in proportion, it should be promptly checked; which may be done by covering the strong eye, or that which is always employed, thus confirming the use of the neglected eye. By this means the muscles of the latter gain strength, and acquire power of directing and adjusting the eye. The time necessary for the cure depends upon the inveteracy of the habit, the length of time that the muscles have been left to themselves, and their consequent weakness.



*with difficulty that muscles acquire an increased degree of action after having been long habituated to a more limited employment.* Where the habit has been of short duration, piece of gauze, stretched upon a circle of whalebone to cover the best eye in such a manner as to reduce the distinctness of vision to an equality, and worn some hours every day, has effected a cure. Instances are on record of a squint being removed by wearing between the eyes a piece of thin metal, which, projecting from the nose, prevents the distorted eye from seeing an object obliquely.

The following mode of curing squinting has been recommended: When the child is of age to observe directions, place him directly before you, and let him close the undistorted eye, and look at you with the other. When you find the axis of the eye fixed directly upon you, bid him endeavor to keep it in that situation, and open his other eye. You will now see the distorted eye turn away from you toward his nose, and the axis of the other eye will be turned toward you. *But, with patience and repeated trials*, he will, by degrees, be able to keep his distorted eye fixed upon you, at least for some little time; and when you have brought him to keep the axes of both eyes fixed upon you, as you stand directly before him, you may change his posture; setting him first a little on one side, and then on the other. When in all these situations he can perfectly and readily turn the axes of both eyes toward you, the cure is effected.

Squinting is sometimes the consequence of any severe illness which has affected the head. In such cases it will probably disappear as the strength of the constitution is restored. It is also brought on by over-tasking the mind with study, or by any cause which exhausts the vital energy of the system. In such cases, no remedy can be effected unless the cause be removed.

The following case is quite worthy the attention of parents. The facts have never before been printed, but their verity is undoubted:

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straight forward at an object

Permanent kind, for at the end of two or three days the eyes would relapse into the original state, and then rally again. The plan was not, however, given up or neglected, although if any accidental omission of any of the remedies (particularly the gymnastics) occurred, a change for the worse was immediately visible. If the child had cried, was reprimanded, alarmed, kept in the house in consequence of bad weather, or did not go to bed till after his usual hour, the squinting invariably and immediately became worse. At the end of about eighteen months the boy was capable in some degree of controlling the action of the eyes; and as he became aware of this power his own endeavors to overcome the defect were added to the energetic attention of his father. Four years elapsed before the defect could be considered cured, and even after this time, indisposition, mental excitement, particularly of a painful nature, want of strong exercise, or over-fatigue, occasioned a slight temporary wavering of the axis of the weaker eye.

Parents will not fail to perceive, from the instance above cited, that perseverance, and even fortitude, are required on their part, and unremitting personal attention, in whatever circumstances of life they may be placed, if they would overcome the physical defects of their children. Above all things, it is desirable they should be impressed with the possibility of a cure, and that the advice and attendance of a medical man, to be of any avail, must be seconded by *themselves*. Again, docility and intelligence on the part of the afflicted child will be needed, and these qualities mainly spring from the training it receives. There is an old notion that, in order to effect any cure, the patient must have faith in the remedy. At first sight the observation appears to be founded in superstition; but on reflection it will be seen that faith not only implies belief, but also the desire to act in accordance with the dictate  
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therefore more likely to take effect. To this willingness the mother must bring the child, and it is so likely to operate advantageously as her own patient, affectionate energy and attention. Examining its effect, while the influence which it is the privilege of a mother to establish over the affectionate understandings of her children, strengthens the power of her example.

#### THE INFANT'S OPIATE.

You must not give to babies any opiate—whether laudanum itself, or opium, Godfrey, or paregoric. “of death” should be upon the label. You have, not seen a Bible print which figures “Herod’s murder of the innocents;” mothers cling in agony around those whose breasts are pierced, and infants struggle in the arms of brawny soldiers. That was a fearful slaughter—there was mercy when compared with the more fearful slaughter—yet the more devastating slaughter—among us we daily move.

In Herod’s time there was one day of slaying—now there is not a day of rest. Then, death came in one short pang, and mothers struggled to preserve their offspring. Now, children perish with the lingering effects of a poison, and drops of death are poured from them by a mother’s hand. The sale extends to every corner of the land. If you have administered to your children these destructive drugs in ignorance, under counsel different from that to which you now listen, and pray, are listening—there can be no reproach to your consciences. But from this day there will be no refusal now to be warned. The early death of your children, or the almost inevitable sorrows of the life, upon your own head be they, if you will not take advice. According to their constitutions, or the influence which your children have received, some who survive become idiots; many (reared thus to stimulus from i

will become drunkards; some dull in intellect; all more or less broken in constitution, in mind and body; weaker, and less able to struggle onward in the world than otherwise they would have been. To procure for yourself a selfish gratification, to still the crying of an ill-managed child, instead of seeking to improve your infant's temper by increased attention to the requirements of its health, you go to the cupboard, you take out the cruel drug. Of course the child is still. You sleep the sleep of death; but your child has not the refreshment of repose. You have called death to stand and watch beside its crib, to hold his cold, clenched hand over the baby's mouth, and fix it in a spell for your convenience, until you wake and come to it again.

#### MORAL GOVERNMENT.

During the first few weeks of life, happiness is solely derived from the healthy operation of the bodily functions. Until the senses begin to act so as to convey impressions to the brain, there can be no pleasure drawn from external circumstances. The activity of the senses, and the enjoyment produced, will be in proportion to the state of the health. An infant who is continually in pain, who is either crying, moaning, or in a state of repletion or of exhaustion from the consequences of suffering, will be but little attracted by the light, sound, or motion which first engage the senses of infancy. In no other instance, perhaps, are the influences of the physical condition so immediate and so evident. An infant, even of three weeks old, will exhibit a haggard, grief-worn countenance, sunken eyes and shrunken face, painful to those whose experience tells them what these signs indicate. But the fair, plump, contented look of the healthy babe, speaks a language of comfort, prophetic of the approaching dawn of intellect. How early does such an infant and its nurse, fix its eyes upon her with a look

intelligence, when she speaks in accents never addressed but to infancy, and reply with the little dove-like sound only uttered by the healthy babe! The happiness and misery of this period of life is wholly derived from physical condition, and the dawns of the sentiment and the intelligence are in proportion to the health.

The general irritability caused by disordered functions renders the impressions upon the senses even more painful than pleasurable; the disposition for enjoyment stowed by the feeling of health is denied; the mother's voice, her smile, are associated with pain as much as with pleasure, and the affections are imperfectly and tardily aroused. As weeks pass on, habits form, and instead of a habit of contentment, there is one of fretfulness. An infant so constituted is either reared with an indifference to its continual crying and fretfulness, or with the apprehension which causes its nurse to be continually seeking how she may quiet or prevent its cries. At the age when food alone appeases it, the babe is always eating or sucking; as it grows older, sugar, cake, etc., are superadded with the addition of noises or rough exercise, and but frequently some sedative or composing draught, when the mother believes herself obliged to adopt in order to procure the child needful repose, or the servant surreptitiously administers to relieve herself from incessant fatigue. When the time arrives that restraints and discipline should be adopted, the fear of farther irritation and contraction leads to a system of bribes, deceit and cunning; all the lowest sentiments of human nature are appealed to; and at two years old we have a selfish, willful, ill-tempered child, with violence apportioned to its strength, and intelligence prompted by ill feelings. It is not to be supposed that these moral disorders beget exclusively to bad health. A healthy child may be seen willful and ill-tempered at two years of age, if injudicious treatment have cultivated the lower sentiments; but a healthy infant is predisposed to receive happy impress-

and enjoys the condition called good temper—a term which in infancy is synonymous with good health. The nurse has fewer temptations to mismanagement, and, the affections and intelligence being more healthful and active, moral mismanagement actually produces less permanent injury.

There can not, then, be too much value attached to the physical condition of an infant; to the condition of the parent while pregnant and while nursing, and to the regulation of every particular connected with the health of her offspring. This being the first object, both in point of time and importance, the next consideration is the means of developing the moral and intellectual faculties.

The brain, on which the mental functions depend, is in infancy the least perfect organ. Only a few of the simpler instincts, as the appetite for food, are at first in any degree active. After the child is a few weeks old, he begins to exercise his senses, and the first traces of intellect and feeling are exhibited. But still, and for long after, the brain is in a tender and delicate state, calling for the gentlest treatment. No loud or harsh sound should therefore ever reach the ears of young children; no violent light should be allowed to come before their eyes; they should always be addressed in the softest tones; and nothing should ever be done in the least degree calculated to frighten them. These are the chief particulars of treatment which we are called upon to attend to, with regard to the mental system of children, during the first few months. Opposite conduct is apt to produce serious damage, and that of a very durable nature. There are particular cases and circumstances in which the value of kind and gentle treatment is greater than usual. Perhaps the infant may have derived from nature a constitutional irritability; or he may be accidentally pained by some derangement of his system. In these cases, caresses, gentle changes of position, and lul-



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The first duty, then, is for the mother to be and to do on her own part, as she would wish her child to be and to do; and to accommodate all other circumstances, as far as possible, to the same end, particularly as regards the selection of attendants. She must be on her guard against the delusive notion that an infant of a few months old is not capable of being affected by the conduct of those in whose arms he lives. Though unacquainted with words, he is perfectly alive to what may be called the natural language of the feelings, as harsh looks, loud and sharp tones, or the reverse. At three months the smile of his mother elicits from him an answering and sympathizing smile; and at the same age an angry gesture will frighten him. And not only is he sensible of language of either kind addressed to himself, but also of what is addressed to others. An instance is on record of a child falling into fits in consequence of a violent altercation between his nurse and another person, which took place in his presence. An infant may possess such gentle dispositions that he will contract no disposition to quarreling from seeing his elders always doing so; but this is a mere chance. The dispositions may naturally have a strong bent that way, and he will then be, as it were, in the very school calculated to make him a thorough quarreler. The more perfectly that the home of infancy is a home of peace and love, the chances are unquestionably the greater that the children will grow up creatures of gentleness and affection.

The earliest intercourse between a mother and her child is carried on by means of the expression of the countenance and the *tones* of the voice. The first language of an infant is the language of *signs*; these are at first involuntary, and indicate his wants and sufferings. After some time he begins to be sensible of the existence of

external objects, and to distinguish his mother's face from that of all others. In this face he reads his first lesson. The child ascertains that there is one who takes constant care of him, to whom he can make known his wants and wishes. He looks, and she understands; he cries, and she hastens to his relief. He improves daily in the use of language which he finds is intelligible to her, and becomes at length a little master of pantomime. He sees, too, that she looks differently at him, at different times, and that the tones of her voice vary, indicating pleasure, praise, approbation, and reproof. Thus, long before oral language is used, the mother and child have established a symbolical language of the countenance and tones of voice, to which, if the child is sprightly, and the mother has a tact for it, *gesticulation* is added. The mother has perhaps, used this natural language unconsciously, but she may do much to improve and refine it, and to extend its use in the development of the moral and intellectual powers of her child. Expression of countenance adds greatly to the force of speech; and as it is subject to the will, it can be cultivated and improved.

A mother should take care that every feature, look, and movement, corresponds with her feelings, and this without affectation. *Let her feel as she ought*, and then endeavor to *look as she feels*. Let her, when the occasion calls for it, the corresponding feeling, cast upon her child a look of pity, of sympathy, of consolation, of composure, of interest, or of playfulness, giving to each a distinct character, while her habitual expression should bear the stamp of gentleness, patience, cheerfulness and hope. When government and discipline are necessary, let the countenance exhibit authority, decision, firmness, disapprobation, and a determination to be obeyed, mingled, however, with entire composure and self-possession.

In infancy and childhood the muscles of the face, which give it expression, are exceedingly pliable, and yield almost involuntary obedience to the emotions and op-

tions of the mind. In addition to the care which mothers should take to preserve a command over their own features and tones of voice, it is important that the same care should be exercised over the children themselves. By these means much may be done to mould the features into forms indicative of virtuous emotions. Habits of expression have a powerful influence upon the internal feelings. A smile, even if produced with effort, will assist in calming angry emotions. There need be no hypocrisy in this. We adopt various methods of self-control, and effect that by *indirect* means, which we find by experience *direct* efforts of the will can not accomplish. The effort to control our features aids us in subduing internal emotion. This principle may be perverted and applied to the worst purposes, for all that is good is subject to abuse. The child who is early habituated to avoid disagreeable, sullen, fretful and unkind looks, and whose affections are at the same time cultivated on sound principles, will have additional security given to the exercise of these affections, and a power of subduing contrary feelings, wanting to the child over whose features and modes of expression no such discipline has been exercised.

Great pains are often taken to cultivate the manners, and to give them an air of courtesy, respect and kindness. The tones of the voice, articulation, pronunciation, and modes of speech, are made matter of early instruction. There is no doubt that all this has an influence in moulding the intellectual and moral character. The various expressions of countenance are as susceptible of control and discipline, and react on the mind with as great a force. They should therefore be formed into habits as well as the manners or the voice, for there can be no greater danger of offending against nature and simplicity in the one case than in the other.

The effect of these principles is fully seen in the change which takes place in the countenance of an uneducated deaf mute, after he has enjoyed a few weeks intercourse



with his companions in misfortune in an asylum. features, expression of countenance, and general deportment, undergo a wonderful transformation, and seem to acquire a new power. Catching by imitation the spirit of those around, they become instruments for the expansion of the mind to employ, and have no small degree of influence in forming habits of thinking and feeling.

It is neither necessary nor desirable to school children into studying the expression of their features. As violent emotions should be repressed, so every expression of that violence, whether shown in voice, feature or countenance, should be gradually checked; not thrown back to be indulged silently and in concealment, but in infancy the mother's calm expressions of pity, regret or consolation; and in childhood by the same means, strengthened by rational appeals to the good feelings. A glance of the mother's eye is often sufficient to deter a child from error, a gesture to recall former advice, a word to overcome resistance or soften rebellion. This power has been established from the first.

However much the gift of personal beauty may have been misused, and although it be confessedly second to moral and mental beauty, yet the charm of an agreeable and expressive face can neither be denied nor unlearned. Young children generally possess this charm; and if it does not remain in after years, it may be because the influence of bad passions or bad habits have marred it. It is obviously the mother's duty to preserve the best gift of nature, and to endeavor that the pure affections, benevolence, intelligence, and gentle sympathies they seek to cultivate in their children, should speak in their countenance as well as in their actions.

For some time a child is content to enjoy the sight of objects, but growth and increasing strength appear to inspire the desire to touch and to grasp. The effort to do this is for months uncertain and imperfect; there is no knowledge of distance or size; the infant reaches

far, or not far enough; too much on one side or the other; and when the hand accomplishes its intention, it has no power to hold or grasp the object of desire. Next comes the wish for possession. All who have observed the early manifestations of infancy, know that a child is not satisfied to touch or take hold—it wants to *have*. No matter how unwieldy the object, possession alone will satisfy. The gestures accompanying these desires are animated in proportion to physical strength and energy; the infant leans forward, stretches out its arms, kicks its legs about, sometimes with a little straining scream, not, however, of anger, but of anxious expectation. The cry of anger comes when the object can not be obtained, or when it is suddenly removed.

Disappointment and vexation being expressed by the same means as bodily pain or hunger, it is not improbable that the attention which such manifestations have procured, leads the child to expect that crying will obtain all its desires. This impression should be removed, and a contrary lesson impressed. First, the infant should not be allowed to have what it cries for; and as the countenance and manner of the mother have been the means of awakening happy emotions, so they should express concern at the evidences of impatience. If the child desires an object which it may touch, the wish should be granted before it grows into irritability, yet not in such haste as to preclude a small exercise of patience and forbearance. Instant and constant attention to the wants and wishes of children renders them exacting, violent, or fretful, and will even engender a love of command and impatience of control quite inimical to obedience. Playful notice, while the child waits, will at first serve to restrain irritable feelings. It is too much to expect an infant to await its gratification with no other occupation than expectation. This comes when time and habit have confirmed the certainty that the mother *will* attend to the wishes of the child; reliance upon her, and confidence in her love and truth,

tending to confirm serenity of temper. The influence of love fosters the best feelings. Love is our moral shine. An infant who is always surrounded by kind and gentle voices, not only imitates what he sees and hears, but all his emotions are of that happy character which inspires kindness. As months and days increase, his sources of happiness increase; he is prepared by his own physical comfort and the affection he experiences to look upon every new object with confidence and cheerfulness; anticipating nothing but benevolence, he welcomes every body and every thing with gladness. Conventional timidity is checked, and a habit of contentment is formed.

An infant, when once excited, often continues so after the exciting cause has ceased. To change the object of the emotion, should be the object; and where nothing is new and unknown, this is sufficiently easy. A pleasing sound, a bright object, will often suddenly give end to a fit of anger. To prevent irritating circumstances is still more important. Uneasiness, however trifling a cause, disturbs peacefulness, and it is from peacefulness that cheerfulness and good temper spring. When feelings are thus prepared, trifling annoyances are for awhile, more patiently endured; and as intelligence appears, there is a greater readiness to observe, and to derive happiness from external objects. Differences of temperament are early manifested; excitable natures must be moderated by calmness and gentleness; sluggish natures excited, yet never with violence. A fat, quiet, good-looking child, may give little trouble, and this condition is therefore called sweet temper; but it is quite as allied to insensibility, which must be shaken off by the activity of the parent; otherwise, selfishness, and a habit of whatever contributes to selfish pleasures, may spring up.

A young infant requires constant attention; but as time goes on, enough of this may be given, although the child be left (or apparently left) to itself. Thus

tender age he acquires a species of independence, namely, that of finding happiness in himself and for himself. A babe of six weeks old, awake in his bed, is preparing for this independence; at ten weeks he will have fixed his eyes upon some attractive object, perhaps upon his own moving fingers, and he is happily occupied. At a later period, when he can sit in a chair, or on the floor amidst his playthings, he will require the watchful glance of the mother, and occasionally a word or a little help, to assure him of her presence and sympathy. If the child be inactive and dull, then he will need to have his powers of observation frequently addressed and kept alive; but an excitable child is best left to wear out the liveliness of his impressions upon a few objects, without interruption or any other stimulus than that which is innate, or aroused by the objects themselves. An infant with lively feelings and quick perceptions, is more likely to be impatient and violent than one of slow perceptions and deficient sensibility, and will need a counteracting, rather than an exciting power. He should not be hurried from feeling to feeling, and from object to object, but encouraged to dwell upon one.

Every office performed for a child should be done with gentleness and care. When carelessness pervades the general management, the child must be continually uneasy; he consequently gets the reputation of bad temper, and is deprived of those kind influences which can alone foster goodness. The close connection between physical comfort and moral development, ought never to be overlooked. Perhaps the most difficult part of infancy is that in which the want of speech is felt, but without the power of utterance. The intelligence is often great; the sentiments active; wishes and wants are intensely felt, but the means of expression are imperfect, and often unintelligible. The more intelligent the child, the greater is the probability of violent emotion following the unsuccessful attempt to understand and be understood. This is the time when



the mother's influence, and the experience she has gained of her child's character, will come into use. A child who can not make himself understood, usually screams; it is in vain to attempt to silence him by giving him something that he does not cry for; neither will any good purpose be served by talking to him while crying. While silence is at its height, calmness and silence are the best proofs. Beside, when a child is screaming, the voice of the mother must be elevated to loud or shrill tones in order to be heard; such sounds can only be associated with scolding, or with a noisy mirth, ill fitting the feeling with which she should witness violence. The object is to show that screaming is of no avail, and that some better means must be adopted to express and obtain its wish. There will be many bursts of anger before this is effected, but no evil need be apprehended. While the mother is firm and calm, the child will not cease to love her, but on the contrary, her aid will be felt upon this point quite as much as in matters of bodily suffering.

It is not unusual for a child so treated, to soften in tears of real grief on finding that his mother's countenance looks sorrowful, and so to forget the cause of excitement. It is always better for the parent and child to be alone together during such scenes. A child of a year old, when crying with anger, will often look round on his observers with an air of defiance or determined resistance; or, conscious that they have no sympathy, relapse into stubbornness. However erring, he should at no age feel that he has lost his mother's sympathy; and on the slightest evidence that grief has succeeded anger, she must be ready to encourage and to aid. A shake of the head, a firm but gentle *no*, silence, or placing the child in solitude, will sometimes calm the passion, but this must be cautiously tried, lest it cause terror or greater violence. It is an error to induce children to cease crying by promising them what they want as soon as they leave off; for if they can understand the word

*"When you have ceased crying, I will give it you,"* they can quite as well comprehend, *"You can not have it, because you have cried;"* but when anger has subsided, amusement must be provided, so that the child shall not relapse into fretfulness; the object being, not punishment, but to show the child that violence will not obtain its wishes. It is difficult to discover how children acquire the power of interpreting language, but they do so long before they can use it. Tone of voice, and expression of face, assist considerably; strangers, particularly when not accustomed to children, being rarely understood by them. It seems desirable to accustom a child to listen to a few words from the mother relating to familiar objects or persons, or to some of his own actions, that he may be habituated to comprehend, or at least to endeavor to do so; and he might be questioned by words and signs, so that he shall reply by gestures, and by such sounds as he is able to utter. As the violence of this period of childhood arises so much from want of language, pains should be taken by the mother to establish between herself and her child some means of communication that will smooth the difficulty.

Constant warnings, threats, or entreaties, have a most pernicious effect, when the obedience they would obtain is not insisted on. The child, becoming accustomed to them, ceases to regard them, and imperceptibly discovers that words do not really mean what they pretend to convey, and thus a disregard for truth is first taught. When a prohibition is given, it should be adhered to; it will be necessary to repeat it many times, because the tender mind can not be expected to retain ideas, which may immediately influence conduct; but the repetition must be made seriously and patiently, not by an angry ejaculation or reproof uttered in haste and irritation. The oft repeated "let that alone," "be quiet," "don't do so," "how naughty you are," only conveys that something is wrong; no impression is made except one, character-

ized by some annoyance felt equally by both parties, no fixed and definite experience is obtained.

A mother should always endeavor to ascertain what qualities or tendencies are most injuriously active, and, far as possible, suppress them by a gentle course of management. At the same time, she should observe what are the weakest points of character, and if these be the good qualities of the mind, let them be cultivated and exercised with all the diligence which she can command. For example, if the child incline to be destructive, breaking toys, killing flies or other small animals, being uncompanionable, and so forth, it is of importance to detect and suppress this dangerous propensity, and to root out activity benevolence and gentleness of manner in its place. If the child show a deficiency in any useful quality, such as memory, language, power of observation, and so on, it should be frequently exercised, because exercise strengthens; and the longer that the exercise is continued, the power of performance becomes the more easy and durable. In a word, *check bad propensities, encourage good ones*, and in either case with gentleness and moderation, according to circumstances.

It is important to recollect that the vicious or defective tendencies of children are at first weak, and in many instances may with little trouble be remedied. But if the disease is superficial, the corrective should be light; if it is deep, it should be the object of the mother to prevent rather than to cure. If she keep her child from evil communications—that is, associating with persons, old or young, who are likely to sully the infant mind, and nothing is so easily done—she will be spared days, weeks, perhaps months of toil, in eradicating the mischievous tendency which has been excited. But in the worst circumstances that can arise, do not on all occasions oppose and correct the child; he should not be aware of your intentions to correct him systematically, for he soon discovers he is to be thwarted, and is as ready for combat as his opponent. In this

ner, injudicious correction has spoiled many children, who might otherwise have been the pride and solace of their parents in after years.

Cleanliness, order, and general propriety of demeanor, are to be ranked among moral virtues, and their foundation is to be laid in childhood. Parental example will do much, whether manifested in the observance of regular hours, of neatness, delicacy, genuine courtesy, and the ease which always accompanies true refinement. Children can not be taught what is termed manners, without rendering them affected and insincere, for these are usually artificial and conventional; but they may be practised in the true elements of politeness, namely, self-respect and a delicate regard to the rights and feelings of others, in contradistinction to the mere desire of admiration, or the selfishness which has no regard for opinion, and which only prompts to individual gratification.

It is desirable that children should observe a cleanly and delicate method of eating and drinking. While they are too young to feed themselves, their food should be given them with attention to neatness and comfort. As soon as they can assist themselves, continued care will be necessary to accustom them to the use of the spoon, fork and knife, and also to arrange the food on the plate, so that it may be eaten with attention to the method usually observed; the meat, vegetable and bread following each other in regular succession, with a proper proportion of salt. Drinking or speaking with the mouth full, putting the fingers into the plate and mingling the food, should be checked at first.

Conduct at table is also worthy of attention. Children are often inclined to play with the different utensils, and so to break or overturn them; this habit, with that of reaching for what they require, putting their elbows on the table, sitting awkwardly, and other uncouth demeanor, often interrupt the comfort of the family meal. A love of order is so natural to some children, that any change



from their customary routine, or in the usual play with the different objects around them, has been known to excite them to anger or tears. There are other occasions, however, in which a love of order must be created.

Mutual confidence should be a governing principle in the communion between parent and child. This confidence can exist where the former acts only as a judge and punisher, who acknowledges no compassion, no sorrow, and can not weep and hope with the offender. The words, "I am sorry that you are angry;" "Try to be good, and I will help you;" "Wipe away your tears, let me hear what vexes you," are more likely to overcome error, or turn away wrath, than stern commands and disapprobation; for this treatment does not conceal the error, or disguise its evils, while it differs from the compassion which fondles or coaxes, and enables the child to soften its violence or withdraw its opposition. Are there not moments in the lives of all, when a confession of error to a friend whose sympathy, consolation and encouragement, are certain, lessons the bitterness of self-accusation and confirms good resolutions? Are there not also moments when the want of such a friend, the reproaches and cold contempt of those who possess the right to condemn, hardens the heart, and converts wavering repentance into dogged perversity? If, at an early age, when experience and self-dependence are so influenced by the denial of sympathy and the adverting of stern reproach, how much more must the tender buds of infantine feeling be nipped and withered by the chilling frosts of severity! Nothing can be more beautiful than the conduct of a child reared under the influence of love. It enters among strangers unabashed and undismayed, ready to welcome and be welcomed, seeking happiness, and prepared to find it in every thing with every body; so willing to be pleased, that gratification, however trifling, is prized and enjoyed; habituated to cheerfulness, yet so full of the sympathy

has so largely enjoyed, that, however gay, it does not lose sight of the comfort or sorrows of others; however amused, there is no selfishness in its enjoyments; the mind is active and energetic, and the whole character beaming with intelligence and happiness.

Reverse this picture, and see the child who has been governed by fear—a suspicious, timid glance, an endeavor to escape observation, no spontaneous prattle, no words or actions pouring out the unrestrained thoughts and feelings; nothing truly enjoyed, because there is an undefined fear of doing or saying something which may provoke rebuke; or if there be enjoyments, they are received in silence, and in that solitude of heart which leads to selfishness. Candor is a quality to be encouraged in children; indeed, it is natural to them; their helpless, dependent nature leads them to seek and bestow confidence; they have no reasons for concealment but such as fear induces. If it be needful, as assuredly it is, to learn the character of a child's disposition and feelings, to trace out the beginnings of error, to observe how impressions are made, and what are their effects, how can this be done when fear influences the child to conceal, to misrepresent, to affect and to deceive? To a young mother whose career of maternal duties is but just commenced, it may seem unnecessary to dwell upon the importance of an affection which she believes is already too full for increase; but she must look forward to the time when she will be surrounded with little ones, of different dispositions, the novelty of her situation worn off, and youthful spirits less joyous and elastic. When pecuniary means are not so equal to the support and comfort of many as of one, when cares and anxieties of all kinds increase, then comes the time for the exercise of perfect love, when it is most powerfully taxed, and when it is most likely to give way. The active mind is more liable to irritability than the indolent; therefore the best informed, the most ardent, anxious, and well-meaning parents, are the most likely to

forget their previous convictions, and in a moment of impatience to inspire their children with fear, and to shake the confidence which the child ought to repay to its parent. So true is it, that before we can govern children, we must be able to govern ourselves.

Obedience from child to parent is justly insisted upon, but it is not sufficiently considered that the means of establishing it depends more upon the conduct of the parent than upon that of the child. Obedience, to be of any use in forming goodness, must be based upon respect and confidence. It is by no means unusual for children to be told that whatever their parents do is right; that they must be loved and looked up to, and obeyed without hesitation. Now, instead of telling them this, it would be wiser to make them, by the exercise of kindness and gentleness, and by industrious attention to duties, strict and universal observance of truth; to earn the love and respect we command, and, by example and practice, accustom young to witness and experience the effects of the virtues we recommend. The feelings of children may be directed to habit as readily as their appetites, and they may only be habituated to goodness by continually feeling its effects. The serenity and happiness produced by this treatment nourishes love to others; example shows that love may be made active. The child who sees its mother's occupations have a reference to the advantage or welfare of others, that they contribute to the comfort of all, and that she finds pleasure in these occupations, has learned a practical lesson in benevolence; and when it seeks to act upon what it has learned, its efforts should be gratefully received. No matter whether they are successful or not, the *intention* is the thing to be valued. It exercises the benevolence to employ a child in useful services, such as fetching an article that is wanted, putting things in their places, picking up litter, etc. When fully executed, they should be acknowledged, and

villingly performed, thanks are still due; but the child ought to be made to perceive that a willing service is most valued.

A mother gains nothing, and loses every thing, by instilling a child *fear* her. Fear may compel obedience, but it will establish no real goodness, no spontaneous wish to do right; on the contrary, commands will be evaded whenever it may be done with impunity. There will be concealment of thoughts, feelings and actions; and cunning and deceit will take the place of truth and honesty, for the mother will never have any influence, nothing but temporary power. The only fear a child should feel, is the fear to do wrong; not, however, because it dreads punishment, for this is a low, debasing motive, but because it would not pain those it loves. The fear of a mother's sorrowful countenance will be a more efficient check, a more healthy influence to a *young* child, than the effect of her angry voice. Confidence in a mother is very necessary to obedience, and can only be obtained by such practice of truth and steadfastness on her part, that there is perfect reliance upon her. A child has little or no experience of the consequences of his actions, nor will he heed the best guidance always consent to take warnings and prohibitions upon trust; but when he is never deceived, when promises are never broken, threats never made in vain, there grows up a faith in the mother that leads a child to respect and to obey. To gain this faith, to secure perfect reliance, the mother must be consistent, equal temper, the same to-day as yesterday, otherwise the child becomes confused, does not understand why the mission of yesterday is changed into a denial to-day, why the smile of affection is now altered to the tone of irritable complaint.

Falsehoods of a very fearful kind are sometimes uttered to deter children from errors. Threats of old men and wicked men, and other like terrors, false and true, are resorted to, to frighten them into error.



tained that death, fits, idiocy, or insanity, have been consequences of such inhumanity. But setting aside probable chance of such calamities, there are other results. If the child discovers the falsehoods practised upon him, he becomes boldly indifferent to the threats; more disobedient and willful than ever; disbelieves that is said to him, and, finding no respect for truth in others, has no regard for it himself. What becomes of the timid child? He lives in a state of fear of—he knows not what. The sight of a strange face or a new object fills him with terror, for it may be one of the horrors with which he has been threatened; his faculties are deceived, and diverted from their proper objects; he lives a life of fear and doubt, unable to distinguish between what is true or false, real or unreal, good or bad. He fears nothing; it is well if he does not hate. But he is not more obedient.

The exercise of any sort of cruelty toward children renders them insensible to the sufferings of others. This is a reason why they should not be subjected to personal chastisement. Imitation being one of the strongest faculties, the child who is beaten also uses blows to achieve his purposes. There are many parents who, upon reflection, would shrink from inflicting a personal correction, or encouraging violence, yet are continually fostering a passion for fighting. For instance, a child falls down and hurts itself against the floor or the furniture, and is immediately urged to beat them. This is the lesson, practically showing that revenge is to be indulged in. Above all things, let the mother beware how irritable she betrays herself into a slight pat, a twitch, or a gentle shake; if indulged, they inevitably lead to something more, and personal correction becomes a regular habit. When recourse is had to blows, nothing else is left; the child gets hardened to the sense of pain, indifferent to disfigurement, and before committing a fault, does not consider whether he is about to do right or wrong, but weighs the chances

of escape, and the proposed gratification against the pain of a beating. There is a quality in most minds which resents injustice and feels disgrace. It is a valuable sentiment, and gives that self-respect which assists in elevating the character, and preserving the individual from every thing base and degrading. When this sentiment is powerful, a resentful feeling is aroused by violent correction, not the humility which is necessary to a sense of error and consequent amendment. Where it is not active, chastisement extinguishes all feeling of self-respect, of honest and worthy ambition, of generous desires, and establishes in their stead a taste for all that is base, low and sensual. Every correction that is inflicted in anger, bears the appearance of revenge, and seems intended to gratify the offended feelings of the parent, not to amend the child. If a parent is angry, she must wait before she speaks. This will give her time for reflection, and then she will seldom err. It is a habit that should be perseveringly practised by every irritable nature. Many persons act wrong upon impulse, who are right upon reflection; with such, reflection should always precede action.

No man submits to a blow; he considers it the heaviest indignity that he can receive; while to strike a woman is deemed so great an act of cowardice, that few persons, however debased, are found guilty of the practice. Her weakness is her protection. How comes it, then, that children are subjected to a degradation which a man revolts from enduring or inflicting? The nature of a blow is not altered by the person on whom it is inflicted, except that the physical weakness of the one party reflects upon the individual who deals the blow. The influence is, that the *parent* who inflicts personal chastisement is more degraded than the child who receives it; and though the child can not *reason thus*, he *feels thus*, together with a sense of injury that must break up all filial respect and confidence. These remarks apply to a later period than childhood; but the beginning is then, and the parent

way. To cultivate the opposite already mentioned, is the mother to prevent every circumstance that can excite sensibility, manifesting dislike at its check can be found than occupying the child with something to do that will employ its energies. In making use of a toy, teaching the child to handle and protect the representation of an animal, and taking it away on the first exhibition of anger. When the child can comprehend the difference between tales of mercy, never of *cruelty*, even where a delinquent is punished; for where there is no *cruelty*, the mind receives pleasant details; indeed, it is seldom prudent to tell stories which illustrate misconduct. Tales should be of goodness; their chief aim should be to excite, that they are impelled to do good. If, of, in order to ascertain the facts, the child is excited, the feelings by tales of delinquency. Indifference or unhealthy sensibility is the result of such excitements, and compassion is exhausted upon fiction, instead of being directed to realities. No child should be allowed

the children of a family will be actuated by the same spirit—a spirit subversive of selfishness. Dissimilar as all characters are, different as all intellects are, and different as all situations are, the great duty of life is the same—the promotion of the welfare and happiness of our fellow-men. There are few errors, perhaps none, which do not affect the happiness of others as well as of ourselves; each individual who improves himself, improves society; and every mother who rears her child aright, aids the universal progress toward excellence.

### ***EARLIEST INTELLECTUAL EDUCATION.***

The intellectual education of children, until two years of age, consists in preparing the senses for the reception of correct ideas of things. The rudiments of all learning are acquired by means of the sight, hearing, smell, touch and taste; as these increase in strength and activity, new ideas are gained, and new impressions made. The operations of the senses are so closely connected, that correct notions can not be at first acquired on any subject by the action of one sense only. Touch confirms or corrects ideas of form, texture and substance; and we find that the blind employ this sense to acquire the knowledge that can not be obtained by vision, while signs and gestures are addressed to the deaf, and employed by the dumb, to express what speech usually conveys. Infants must be permitted the free use of the senses, and be furnished with the best means for promoting their voluntary and healthful employment. Direction is all that is needed from the parent, while imitation is the faculty she will chiefly appeal to, always keeping in mind the delicacy and excitability of the organs. She will find that at a very early age there are decided indications of a preference for certain objects; and though she may contribute to happiness by indulging a predilection, she ought gradually to endeavor to direct the attention to objects which



will generally employ the faculties. For example, a child show most delight at seeing colors, she ought not to foster this use of the eye only, but direct it to discriminate form, dimension, arrangement and numbers. It is not to encourage that which is most easy and pleasurable. The object of the first steps in education is to prepare the powers, not to perfect one.

Next to bodily health, employment is the source of an infant's happiness, and one of the means of developing its moral nature. The love of employment is an inherent desire or instinct; and it remains to be considered how a strong desire for occupation may best be satisfied and directed. First, objects must be found for its exercise which are harmless, of no value, or not easily injured, and which shall address the eye and the touch. The inclination to carry every thing to the mouth renders it difficult to provide proper means of amusement, but which may be done by a little ingenuity. A colored silk or cotton handkerchief, for instance, is to be met with in every house; having variety of color, and being capable of various forms, the eye is delighted; its softness gratifies the sense of touch, while its yielding nature permits it to be shaken, twisted, whisked about, offering endless amusement for the exercise of the hands and arms. As the power of observation grows, the mother may fold the handkerchief, which the child will watch, and next unfold it. A piece of broad ribbon will give a variety of amusement, and the crumpling and folding of paper change its character again. A bag should be prepared in which to store every fragment that can delight without hurt to an infant. There are articles in every house, which if gathered up and applied, would spare money, time and temper—for example, feathers, shells, buttons of various variety, cotton-winders, corks, cards, colored beads, bits of silk, ribbon, and printed cotton, with many other nameless matters. One precaution is necessary—every article that can be swallowed should be seen

upon a string, so that they may be moved freely upon it. These things will at first only be turned over, tumbled about, shaken, rolled hither and thither, put in and out of the bag: as soon as this has become wearisome, and there is no more spontaneous application of them on the part of the child, the mother may arrange them in certain forms or according to color; in short, make any application of them likely to attract. Then she may place them by number—one here, two there, next three, etc., or she may raise cotton-winders, corks, or cubes of wood, one upon the other, or distribute them in squares, columns, etc. All she has to observe is, that she conveys only one idea at a time, that she never insists upon the continuance of a pastime one instant after it has become irksome, nor worries a child from object to object, but leaves the child free to imitate, alter, or otherwise apply the idea, since something may have been suggested which it will benefit the child to work out, and so raise him above the mere imitator. She has only to give the direction: suggestion is her province equally with example.

A book with cloth leaves whereon to paste prints, is a source of unfailing pleasure; it can not be torn like paper, and gives the means of associating things with their names. Representations of domestic animals, birds, insects, fruits, vegetables, utensils and furniture, are the most desirable, because they are seen in their realities; while the power of cutting out with the scissors is another admirable means of addressing their faculties, quite worth a mother's cultivation. A very rough resemblance satisfies a child; and the use of the pencil and scissors, or a reference to prints, assists in illustrating a story or a fact, which without such aids is often uninteresting and unintelligible. Objects that fit one into another, exercise the hand and the eye, such as a box with a sliding lid, a piece of wood with holes, having corks corresponding in size, a basket to be filled with cubes of wood and carried  
stead

such as these, also act as trials of

patience. A box with compartments, in which counters, beans, beads, cubes, triangles, etc., can be arranged according to size, form and color, is a safe and desirable toy when the child has ceased to put everything to the mouth. It is almost unnecessary to recommend a box of bricks, nine-pins, a ball, a doll, a cradle, etc., as soon as a toy has ceased to amuse it should be put aside, and, if it no longer excites attention, kept out of the way until time enough has elapsed to make its novelty again attractive. A slate and pencil are usually welcome to children; they are delighted to imitate the occupations of the persons around them, and are happy in believing themselves to be reading or writing. When children are beginning to articulate sounds, it would assist them if familiar objects were pointed out, and, at the same time, the name of each object distinctly pronounced. The ear would thus be instructed, and the imitation aroused. When listening earnestly, a child's lips and tongue may often be observed following involuntarily the movements of those of the speaker, so acquiring the first principles of articulation. The deaf and dumb are taught to speak by directing their attention to the position of the lips, tongue, teeth, and larynx of the speaker during utterance. The same means may be employed to overcome the difficulty in pronouncing certain letters experienced by some children. Thus the *c* and *k* are often sounded like *t*, as *took* for *cook*, *took* for *kiss*. If at four years of age articulation is not perfect, the child ought to be systematically taught to pronounce correctly.

A child will not always put a toy to the purpose for which it was intended; but provided he does not destroy it, this exercise of invention is advantageous, and it is for this reason that fragments are more agreeable than the most perfect toy which has but one action. Children are usually fond of destroying and of constructing; if they have not materials for the latter, they will make something out of any thing that first offers itself. Many are e

mischievous who are only impelled by their nature to construct, and who, having no employment found for their natural activity, create it for themselves. The little articles above enumerated may be made at little cost; and in this department of infant training the father may give important aid. A child having no experience of its own strength, does not know what can and can not be broken, nor foresee the effect of its own actions; while the constant injunction to take care, the directions not to do this, and to beware of that, so perplex, irritate, or alarm, that there is no enjoyment in the plaything, and the pastime ends in mechanically looking at or moving it without benefit or pleasure. If allowed to destroy without caution or care, the first step is taken toward reckless wastefulness. The only care to be expected from a young child is abstaining from direct violence, and the endeavor to gather his playthings together, and put them by in the box, drawer, or cupboard allotted to them; and even in this he must be assisted, for when amusement is over, the interest in them is over also, and the child can not be expected to understand the utility of order till he has had experience of its advantages.

We do not mean that children should be *taught* to play, or that their faculties should be systematically put to work; the object is to furnish the means of employing that activity with which they are so largely gifted, so that it may not be used injuriously to themselves or others, but be turned to the development of many of the mental qualities. Neglected children exhibit melancholy examples of the misapplication of their early powers. The well-worn adage, "Idleness is the root of all evil," applies to infants as well as adults; with this difference, that their idleness is not a matter of choice, and that, intellectually as well as physically, they are dependent beings.

The playthings of children may be made serviceable in giving them notions of property. Furniture, utensils, books, and   
 parts of a house, offer constant temp-



tations to the curiosity and activity of children, are often materially injured by them; they are continually infringing positive commands when they meddle with but if provided with proper objects of amusement and observation, if they be repeatedly shown that these are *their own*, but not the furniture, the temptation will be less. Besides which, there ought to be as serious a regard to the property of the child, as is required from him with regard to the possessions of others: the understanding may be strengthened by reserving a few articles which can be lent when *asked* for. Toys should be kept apart, and over his own toys there should be perfect power, while they are not applied to the use of other people. When there is a determination to do no new toys should be bestowed, but it is scarcely wise to take away those already in possession; an article given becomes property, which the owner can not justly made to resign. No moral law should be inflicted because a child is in the power of its parents: if the rule is admitted that authority—superior strength is short, whatever constitutes *power*, may do wrong for pleasure. Children should feel that their parents are their protectors, who will not only rescue them from danger of the moment, but also foresee and prevent it. Having felt this in all that regards comfort, health, allaying of hunger and thirst, alleviation of pain, they will soon make an instinctive moral application of the protective power and inclination.

Telling stories is an inexhaustible fund of amusement, and, fortunately, no one, however deficient in invention, need be at a loss, for the child is best satisfied with the simplest narrative, simply because he can understand and sympathise. He is delighted to hear that a little mouse came out of a hole, and carried some crumbs from the floor to his little hungry children at home. This may be related in more detail twenty times in the same manner, and "tell it again" will follow every repetition. Ta

better told than read. Indeed, there are very few publications simple enough for *very* little children. Every mother should give attention to the accomplishment of telling a story; it is a powerful instrument for the production of good, when wielded with discretion. She should not make too much use of the wonderful, none of the terrible, the pathetic occasionally, the benevolent more frequently; but she must not always address the sentiments and affections. Simple facts illustrative of the habits of animals, birds, insects, trifling details of common events, such as of the doings of the man while making a chair or painting a house, or of a little girl who gathered wild strawberries, and running home very fast, was quite out of breath—such are also very suitable materials for story-telling, to be embellished by descriptions, and lengthened out by words rather than by too many or dissimilar ideas. Verse and song should bring their charms also. Most children are caught by versification, and by the melody of rhyme, long before they understand words; the effect of soft vocal music seems instinctively acknowledged in that maternal lullaby which forms a part of all national music. It is scarcely necessary to remark upon the various sentiments and faculties which may be thus healthily addressed, nor that the child may be kept from bodily fatigue during the recital of a tale, while the mother may ply her needle, or pursue other domestic occupations.

In telling stories, it is well to divide them into those that have happened, those that might happen, and those that never could happen. The last should be reserved till the understanding is advanced enough to make some thing like a distinction between the possible and the impossible. A love of truth is imperceptibly but surely advanced by impressing its importance upon the intellect as well as upon the sentiments.

Children indulge their imaginations by pretending to be other people, and performing a series of events which they have seen or heard of, or only supposed. They

of having said or done wrong, by then somebody else. A mother's defence, however ingenious, nor a evasion of the ingenuity to escape evil from this exercise of the imagination is no mischievous intention; on the character of the child will frequently depend. The prevailing sentiments will then be the same; the benevolent will enact generosity; the violent will perform punishment, or of contention; the timid their fears, and the hopeful their fancied character is a harmless addition to the fancy, and in this case taste is cultivated; but where the object is admiration, and not to excite the reality of his personification, he shall feel the indifference of the bystanders.

Out-door sports in fields and upon the weather. Gathering willow into nosegays and garlands, weaving stringing berries, the spade, the ball and the hoop, are universally known in the house, the mother must occasionally

may not be gathered, and the spots which may or may not be played in.

A fear of insects and reptiles is very prevalent among adults, and especially females, and may in most cases be traced to the impressions made in early childhood; it leads to much cruelty and needless destruction of life, while it deprives those who are under its influence of a large share of delightful and profitable information. The innocent pleasures to be derived from flowers, trees, and all else that adorns the country, are converted into fear and pain, by the dread of the insects and reptiles that dwell among them, and which, in truth, contribute to their interest.

A child should be taught to avoid wasps and hornets, not to handle bees, and not to sit down on ants' nests. But, at the same time, let the ingenuity and industry of these insects be pointed out, so as to raise emotions of pleasure in the infant mind. A little attention in this respect would greatly improve the intelligence and taste of the child, and, at the least, prevent it from feeling disgust or aversion in looking upon some of nature's most interesting works. To bad training in infancy, we have to ascribe the loathing which is usually felt respecting toads, spiders, and many other creatures, whose uses and economy ought to be the subject of delightful contemplation. We say to all mothers—lose no opportunity of cultivating in your children a perception of the useful and the beautiful, whether in nature or art, for on this may be founded the correct habits and tastes of after years.

*Telling* children they must attend and observe, is of no use whatever; they do not know why they should learn; they have no wish to learn, or rather they have no wish to study; but when they have continually derived pleasure from observation, they will observe from inclination. On first being put into a swing, the child has no notion what it will feel; but when it has ascertained the motion to be pleasurable, the <sup>a</sup> the swing is associated with pleasure. T <sup>a</sup> undergoes the same



two years of age—or even under 1  
to circumstances—children should  
any species of knowledge which  
exertion of the intellect. Attempt  
children to read, to repeat answers  
are highly blameable. As repetition  
brought under the notice of the  
joyous conceptions in his tender  
age the growth of those habits which  
youth as well as later years. Children  
of imitation, should, by all means,  
male attendants who possess an exact  
study to cultivate correct sentiments  
young charge. For the same reason  
be allowed to associate with servants  
indelicately. In those parts of the  
provincial dialect prevails, female  
possible, be procured from a district  
is more correct; and if mothers  
expense of doing so, they should  
attendance and care, to compensate  
mothers be assured that they can  
error in the rearing of their children

girls. It is allowed, for instance, that they are more liable to convulsion fits; but this is a point which we leave to the discretion and advice of the physician. As infants approach two or three years of age, they will have a tendency to amuse themselves in a manner befitting their sex. A taste for nursing seems a strongly planted passion in females, and will readily demonstrate itself in the fondling and dressing of dolls. This is a sentiment which should be encouraged by the mother or nurse, not only because it is natural and innocent, but because it leads to careful and tasteful habits. Many women will acknowledge that their taste for neatness in attire was first cultivated by the attentions which they lavished on their dolls. But this matter ought strictly to be treated of in an advanced work, and it is only necessary here to make it the object of a passing hint. Boys will, in the same manner, exhibit peculiar tastes and tendencies, which will admit of similar regulation.

REMEDIES USED IN THE TREATMENT  
OF WOMEN

IN the modern treatment of diseases, we employ remedies. Some of them are new, but all are given in a proper dose. In giving these remedies, we have selected a number of articles from the Eclectic Medical Journal, though intended for physicians, and adapted them to the ordinary reader.

Where no dose is named, that the common proportion of water (half a table glass), may be given every one to four hours.

The first questions that arise in the mind of the patient, in a disease of the reproductive organs, are, what is the disease, and why are they so difficult to cure? We will answer the first by saying that they are called diseases of the reproductive organs, and are not properly to be considered as diseases of the reproductive organs.

ductive apparatus is intimately associated in its development, with the condition of the lower portion of the body—with the apparatus of locomotion. Show me the man who has well developed legs, and the capacity for active and continued movement, and I will show you one who has a well developed and strong reproductive apparatus. If this is the fact, we see the importance of active out-door exercise in girlhood—leg exercise; and the importance of well regulated exercise in the adult. If a feeble woman is about to enter the married state and call into use this apparatus, there is a special reason why a well regulated exercise for pelvic development should be adopted. If now, exercise in the open air is commenced, and gradually increased from day to day, we will find a most marked improvement in the tone of the pelvic structures in the course of a few months.

Inattention to the bowels and bladder is a very common cause of uterine disease. The girl or woman has so much occupation, or knows so little of the importance of these functions, that she neglects them, becomes irregular, and must suffer physical lesions of the pelvic viscera in consequence. No woman who neglects these important functions can have perfect health, and very many will grow some disease in this way.

Want of rest, and exposure during the menstrual period, is a frequent source of disease, and it is well to impress upon the minds of our women the need of care at these times. Not but that a woman who had inherited a vigorous body, and had lived an active, healthy life, might not endure very great exposure without suffering.

Congenital hydrophobia is a very common cause of uterine disease. Some women never wash—anything but their faces—and have to be taught that in civilized life cold water may compensate for sedentary habits. The woman of lax fibre and feeble development will find



the marital relation unless she can  
appertaining to it. If the body is  
opment, her duty to herself, her l  
and to society, demands that she  
recover physical and sexual health  
reader to say, from her experience,  
if they are, the physician's duty is  
clear—educate the people to right

With the use of the reproduc  
abuse, and from this many cases o  
grown. In early married life com  
lation, and excessive excitement of  
paratus, sometimes without the re  
the completed venereal orgasm. T  
out a knowledge of the care that s  
condition, and frequently a too e  
hausting labors of the household a  
possibly, exhaustive and prolonged  
complete the wrong to the previo  
ductive apparatus. In many cases  
great as to exhaust the vital fore  
labor in the care of the household  
others the food is so imperfectly  
woman can not make blood enou

further than the influence of the reproductive function upon the body at large, and upon the reproductive apparatus. Even this is not so large a factor as one might suppose, and we find that the application of the same principles that give success in ordinary disease gives success in these cases.

If we think for a moment of the acute diseases of women, we will see that they do not differ materially from diseases of the other sex, and if we select remedies according to *special* expressions of disease (general principles?) we have excellent success. As with other organs or parts, we find there are remedies which have a special action upon the uterus and ovaries, and this class is frequently brought into requisition. But it will not do to forget in using them, the large classes that influence the appetite, digestion, blood-making, the circulation of the blood, the nutrition of tissue, its waste, and its excretion, with the general and local temperature and innervation.

If for instance I am called to treat a case of acute ovariitis or metritis, what remedies shall I employ? Adopting the physiological plan I will select the proper sedative, the proper bath, local application, means to establish secretion from the skin, kidneys and bowels, and to give right innervation. What more will I do? If there is or has been a wrong of the menstrual function, I use the special remedy indicated *after* the treatment first named. Or if there has been, or is, or will be, abuse of the reproductive function, I give the advice necessary. Have I to do very much more than if it was a case of inflammation of the lungs?

Let us have an example, in a recent case. Mrs. H. has recently returned from a long journey, and the fatigue, and the frequent change of temperature in the cars, produced irritation and determination of blood to the pelvic viscera, increased by its being about the time of the menstrual period. The discharge made its appearance

irritation of the nervous system, passed with difficulty.

Prescribed:  $\mathcal{R}$  Tinct. veratrum, minum, gtt. xx.; water,  $\mathfrak{z}$ iv.; a tea-  
Bowels moved with an enema of tea-  
morning there was a decided improvement:  
tuted:  $\mathcal{R}$  Tinct. veratrum, gtt. v.;  
x.; water,  $\mathfrak{z}$ iv.: a teaspoonful every  
fortable the next day—pain gone,  
complained of some dullness and  
in the ears; continued the medicine  
and ordered a single grain of Quinine.  
menstrual discharge came on that  
cenance was rapid and good.

I give this case to show the similarity  
ment to that of other diseases. Blood  
was employed—macrotys—and even  
quite as useful in an inflammation  
had been the same tense, wave-like.

I think the majority will agree that  
treatment of acute diseases of the  
women must be based upon *right* grounds  
that it should be such a treatment  
for disease of any other part, plus

In the cure of a chronic disease, functional or structural, what is the first condition? To get as good a condition of the general health as possible. What is the second condition? To give the organ or part rest. Let us apply this to the cases in hand. The woman requires the common conditions of healthy life, sunlight, good air, good food, and reasonable exercise. In order to have good tissue and a healthy body, she needs good digestion and blood making, a good circulation, tissues called into use, good waste, excretion, temperature and innervation. Will any special remedy compensate for these? Is the local use of the speculum and the instrument bag and medicine chest of the gynæcologist, compensation?

Let us think for a moment of rest, as a means of cure. Recall the cases of uterine disease that have come under your notice, and see in how many of these, exhaustive household labor has been a prominent cause; in how many too rapid childbearing has been a cause; in how many prolonged lactation has been a cause; in how many mental troubles and *worry* have been a cause; and in how many marital excesses (not the fault of the woman) has been a cause? When I have taken these cases out, I find but few left. It is true that many girls are not properly raised, and have not a right development for the mothers of families, but these give but few cases, if the abuses named above are not added. These are not only causes producing the common diseases of women, but they are present causes continuing disease.

One of the first lessons we learn in the practice of medicine is—that present causes of disease must be removed. In the treatment of chronic disease this is essential, and we do not expect success unless we look closely to this. Now let us reason together. If a woman suffering from uterine disease is overburdened with household cares, what needs to be done to insure a cure? If a woman is bearing children so rapidly as to exhaust her



course of medicine ; by anybody's  
by anybody's uterine renovator ;  
speculum ; or by anybody's nitr  
nedy's pinus canadensis ?

I often wonder if my statement  
old fashioned way—"this may be  
in," "this has proven very valua  
found very efficacious in," etc.

*indefinite* mode that everything in  
possess an aerial mistiness or no  
take what we can easily lay our h  
first suggests itself, and safely neg  
difficult or not easily thought of.

to substituting one thing for another  
ly realize that we want the *one* or  
to restore health, and we do not w

Look over the above, and note the  
treatment of these diseases, and see  
substitutes. Rest. Can you find  
whether it is overwork, worry, too  
prolonged lactation, or over sexual  
part of the male? Good food. Is  
for this? To have normal function  
essential that we have good food

is it to you how the patient lives, or if her room the north side of the house, and is imperfectly ventilated, you are *only* her physician, and it is your business to procure a speculum and apply Nitrate of Silver.

I want a clear and intelligible understanding of these matters at the commencement, and I claim that no man can have success who fails to regard them. I will concede that it is impossible to correct these wrongs in the larger number of cases, even among the poor or the hard-worked women on the farms of the country. If the physician makes the suggestions in a judicious manner, and gives a sufficient reason for the changes in the methods of life suggested, means will be found to accomplish the object.

Coming next to good food well prepared, we rank cold water as a curative agent. As a means for retaining heat it can not be overestimated. As a rule, the woman who habitually uses a sponge bath of cold water to the pelvic region will remain healthy. I have had occasion to recommend it in several cases to pregnant women, as a means of avoiding the many unpleasant symptoms suffered from during the last months of gestation, after childbirth, and it has proven so uniformly satisfactory, that it has been continued afterward. There is no mistake, but that the use of cold water followed by friction in drying, increases the strength of the circulation, the innervation and the nutrition of parts.

Among the advantages following the use of cold water is the less liability to take cold. Let it be recollected that the feeble part always suffers in the wrong of the action we call "cold." If we have an enlarged or inflamed cervix, a leucorrhœa, or a displacement of the uterus, it grows worse at every exposure or change of temperature, and we lose as much at these times as we gained between them. Let me report a case as an example of cold water.

**CASE.** M. is a chronic sufferer from uterine disease, and

...that at the menstrual period  
the vulva. At the menstrual period  
congestion of the pelvic viscera,  
profuse menstruation. The treatment  
with the cold water sponge bath  
between blankets, which were used  
would be applied briskly to the  
then thoroughly dried by friction  
then the water would be applied  
the same thorough rubbing; then  
vulva, and then to the hips and  
She was instructed to keep the  
from the discharges by washing  
supporter was employed to sustain  
when on her feet, and moderate exercise  
in the open air. There was a decided  
with change of scene and pleasant  
an entire restoration of the health  
used, and a case of some eight years  
with cold water, brisk frictions,  
supporter.

Let me call attention to the water  
bandage and perineal supporter  
rest to the debilitated tissues of the  
pelvis. Perineal supporter.

debility and relaxation of tissues. For twenty years I have employed the Swedish movement cure in these cases, and with most flattering results. The treatment is usually a combination of means to give rest, *i. e.*, to lessen household labor on the feet, and the perineal supporter to support the structures, and passive movement to stimulate a better innervation and circulation. The employment of electricity takes the place of this "movement cure," and when judiciously employed gives most satisfactory results.

Let us see what we have thus far. Good food, well prepared. Fresh air and sunlight. Moderate exercise, that is not work. Relief from care, worry, and exhaustive labor. The stimulus of cold, the cleanliness of water, and the invigoration of frictions. Cold water as a means of preventing colds. Rest by proper outside support, and stimulus to nutrition by the "movement cure." Now add good clothing, freedom from exhaustive discharges, a right use of the reproductive apparatus, and we have the basis for a successful practice.

There is a general treatment for many of these cases that must not be neglected, but it is not one that can be formulated in a *R.* No "compound syrup," thank you. No "restorative bitters," if you please. No "uterine renovator." If the tissues of the body are not well made, it will be necessary to make them over. How? you ask. By the methods named in Chamber's *Renewal of Life*. We see that the excretory organs are active, and the processes of retrograde metamorphosis go on well, that the old body may be carried out. Then we use such means as may be necessary to give good digestion, blood making, a good circulation and innervation, that a new and better body may be built in its place. Here we have an *old* and diseased uterus, diseased because it is *old* and disease irreparable unless we can get a *better*. You ask, how an "old uterus" in a *young* Easy enough—a tissue has a life of *about*



and is continuously being born again; if the life of tissue is prolonged beyond four months, and it is not born frequently enough, it becomes old. What shall we do? Stimulate the general processes of waste and nutrition and renew the entire body to newness of life—and all.

Again, my experience in the use of special remedies has proven to me that when special symptoms calling for a remedy are prominent, it will cure uterine as well as any other disease. Let me give a couple of examples from the last season.

Mrs. T— has suffered more or less since the birth of her last child, now over two years. She complains of bearing down, fullness in the pelvis, a weak back, leucorrhœa, and her general health is impaired. A vaginal examination shows an enlarged uterus, cervix hypertrophied, tissues inelastic, organs low down in the pelvis. Her face is full, there is venous fullness, her tongue is full, inclined to be dirty, she has sense of dizziness in the head, pain in the ischiatic notches, and lumpy stools followed by thin feces and mucus—all the indications for podophyllin, and I prescribe, *R*, podophyllin, phosphate of hydrastia, gr. x. Make twenty pills. To be taken at mid afternoon. Exercise in the open air and good food. You would say that this was scanty treatment, and yet she is sound and well, nothing else has been employed, and the prescription not renewed. I say it was “the exercise in the open air and good food” that did it; so be it, cure your cases in the same way.

Mrs. W— has suffered for some months with the usual symptoms of uterine disease. Monthly periods irregular, discharge scanty and dark in color. Has been treated before with escharotics for disease of the cervix and ulceration, and does not want to go through the same process again. Examination determined a cervix slightly enlarged, tissue dense, and a peculiar vaginal sensation at points—erosion—near the os a well defined ulcer.

Standing first in the list of these remedies is the macrotys, and for these uses we employ a tincture of the fresh or recently dried root, the dose being small, gtt. v. to gtt. xx. to ℥iv. of water, a teaspoonful every one, two, three, or four hours. It seems to have a direct action in restoring the menstrual discharge, if the arrest is associated with undue vascular or nervous excitement. It exerts a special influence upon the ti                '                ing towards the normal period whether t                but in the last case must be employ

rubra. These remedies have a m  
reproductive apparatus and funct  
so thoroughly studied as the mac  
caulophyllum with marked advan  
congestion with a sense of fulln  
pelvis, the wrong of the menstrua  
ciated with hysteria.

Pulsatilla is one of my favorit  
excellence the remedy for arrest  
tardy menses, and for scanty me  
derangement of function without  
vous excitement. General nervo  
the mind—is a prominent indicat  
also a prominent remedy for pa  
associated with the head symptom  
ing agents, it looks towards healt  
and healthy nutrition.

In the list of remedies favoring t  
may be included *iron*, not only a  
general remedy, but for its local i  
parts, usually with pallor, may be t  
cation for its specific action. Tis  
quently the lower segment of t  
doughy or sodden sensation to the

abdomen, uterus enlarged, and tendency to œdema of the extremities.

Graphites may be employed when the monthly discharge is pale and watery, with prominent hysteric symptoms.

Polygonum, when there is sensation of weight and fullness in the pelvis, with aching in the hips.

The Mitchella, Senecio and Helonias find a use here, but I am not able to point out the special indications for either.

Tincture of Phosphorus may be thought of as a remedy when there is want of innervation, and the reproduction function (venereal desire) is markedly impaired.

Iodine has a similar use, and is usually associated with nux, (compound iodine pill,) to give energy to the reproductive organs.

When we think of the remedies for the conditions of too free, too frequent in recurrence, and prolonged, we wish to make a classification into those for plus vascular and nervous excitement—active condition; and minus vascular and nervous excitement—passive condition.

The remedies for the first will be found in the class sedative—aconite, veratrum, lobelia, bryonia, rhus, lycopus, gelseminum, asclepias—and we need not give them an individual study here.

The second group may be headed with carbo-veg., which is one of our most certain remedies. The indications are—pallor, looseness of tissues, and a soft, open pulse. It not only regulates the menstrual discharge, as to quantity, frequency of recurrence, and duration, but it exerts a marked influence upon the nutrition of these tissues. I use a trituration one to ten, and possibly it would be better in some cases to use a second trituration.

The hamamelis is another very valuable remedy, and is indicated by fullness of pelvic tissues, laxity of perineum, and impair-

in. These



irritability with lax tissues, though in any case in which irritability is a marked feature.

The pain or uneasiness associated with discharge, and felt at other times, is of a peculiar character and intensity. There may be nothing characteristic about it, or it may point out the remedy.

Nux is the remedy we usually employ in colic. Do not mistake the languid pain that simulates colic, even to its location in the lower abdomen and pelvis. Nux relieves the pain, but greatly aids digestion, and improves nutrition and functional activity. In the early part of last year, in which I was a constant sufferer from uterine discharge, the character of the pain was so decided that nothing but nux at first, and as the discharge continued, factory no other remedy was employed, and I had good recovery in three months.

We do not want to forget that the remedies, lin, actæa, and pulsatilla, are remedies that may be indicated by pain. As remarks of these remedies look toward a remedy, it may ever may be the indication for the

similar action, and is also indicated by pain—expulsive and intermittent. Both are remedies for abortion, and especially to remove the predisposition to it. The reader will recall cases in which there is a continued tendency to abortion, and will probably recollect that the ordinary treatment of uterine disease in such cases is very unsatisfactory. I think the experienced physician will be able to think of a condition of the reproductive organs, which, without any history of the case, would impress his mind as one favoring abortion. These are the cases for the two species of *viburnum*.

*Rhus* is indicated by the usual symptoms, burning pain and heat, structures pinched.

*Apis* is a very fine remedy in some cases. Indications, burning with itching, especially of the bladder and urethra.

*Collinsonia* is sometimes a remedy, the indication being a sense of heat, rawness and contraction, usually about the anus or in the rectum (associated with hemorrhoids,) or sometimes at the entrance of the vagina.

*Cannabis Indica* is a remedy for erethism of the reproductive organs, and venereal excitement.

*Staphysagria* is a remedy where there is fullness of tissue, abundant mucoid discharge, and dull brooding of the mind, with involuntary outbursts of passion.

This is a very brief sketch of some of the remedies employed for their direct action upon the uterus. I have pointed out some of the more prominent indications for their use, especially with reference to impairment of the functions of the reproductive apparatus.

A thorough analysis of disease is essential to success in treatment. We may have a series of cases of uterine disease, say ulceration of the cervix, no two of which will require the same treatment. Take, for example, a case in which an ulcer is the source of unrest; deranging the innervation and circulation of the uterus; causing  
i                   . prolonged, or painful menstruation; causing

have their origin thus, in a point might cover with a five cent piece with the stick nitrate of silver and as the local irritation is thus one after another of the unpleasant fade away, and finally with the the patient is wholly relieved.

Such results have been frequent cause the curative influence of the so marked in some, physicians have cases. I need hardly say that the some, the condition of the patient and in still others there is but a patient only proves, what has been so often that we can not prescribe for anybody's stereotyped or recipe.

Take another of these cases, the very similar appearance, but the extensive contractile pain in the pelvis and the treatment might be wholly prescribe for the patient macrotys one or more, using simple washes giving rest to the reproductive function and our patient recovers without

the menstrual period and check the flow, and cuprum to rectify the wrong of the sympathetic and as a blood-maker, and the patient makes a quick and good recovery.

In another, with seemingly similar lesion of the cervix, we find the uterus low in the pelvis, and the patient unable to take exercise on account of dragging pain, back-ache, urinary irritation, and other unpleasant symptoms. In such cases the use of a well adjusted, perineal supporter, and the movement cure, will accomplish the desired object.

I have seen an intractable ulcer in the nursing woman get well promptly on weaning the child; just as I have seen a similar case cured by non-intercourse, sending the wife away to her friends for two or three months.

Here is your case of diseased cervix with ulceration, in which the patient's tissues look old and lifeless, and evidently both waste and nutrition are slow and imperfect. Evidently a sound uterus can not be made in this diseased body—what shall we do? The object is plain: we wish to establish active waste and excretion, and get rid of this old body, and by putting the digestive apparatus in good condition, and giving the patient the materials of good blood, get an improved nutrition, and build up a better body.

Going back a step, we will find our ulcerated cervix in sympathy with an irritable bladder and urethra; the ulcer may be the cause of this urinary irritation, or it may be the effect. I saw a case two years since, in which the uterine disease had resisted all the usual means, yet was cured with apis and eryngium. I have seen ulcers of the cervix associated with hemorrhoids, and promptly benefited by the treatment for these. Take the case of venous fullness and atony, with relaxed perineal tissues, full doughy cervix, and I would hardly think of treating the case without hamamelis.

ing now this ulceration was the result of, and  
th that peculiar condition of the female or-



to effect a cure in other cases. The most the opposite of this—atony, gangrene, and loss of venereal appetite. The use of small doses of nux and iodine is a part in the case.

But it is quite clear that the nitrate of silver, will not answer in these cases. I reserve it for those cases of erosion, with undue sensitiveness of the surface, and irritation of the nerves. The surface gives a smarting sensation to the finger, and in the ulcer the surface will show abundant red granulations. The use of trichloric acid for the deeper, well defined ulcers, with hardness and thickening of the adjacent parts, may be done with a pine pencil. When the surface is very doughy, with abundant secretion, the use of trichloric acid and glycerine. Even glycerine alone makes an excellent application when the surface is much enlarged and gives an œdematous touch. Persulphate of iron is an excellent application in some cases, especially when the surface is very doughy and the ulcers are inclined to bleed. In some cases we get more relief from the use of iodine, sometimes the mild sesqui-carbonate of iron.

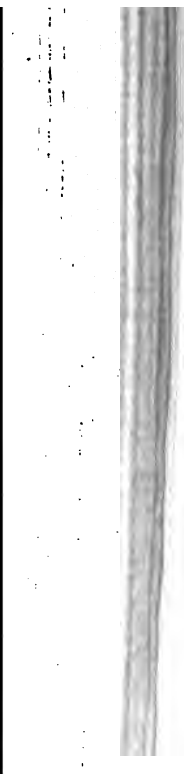
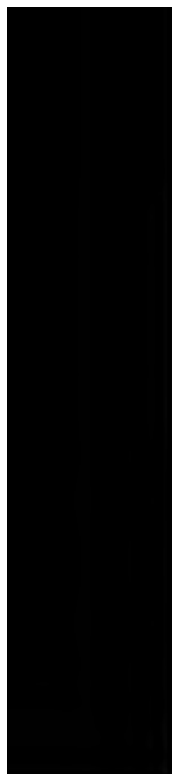
**ant and satisfactory.** If there is no such indication, then we select from the remedies that influence the part, as we can recognize a local indication, or know their physiological action.

But whatever plan we adopt it will not do to forget that right living is essential to success. We can not expect a cure so long as a cause of disease exists, and neither can we expect to make a sound organ, or have a sound function, in a diseased or impaired body.

With regard to the use of vaginal injections in the class of diseases under consideration, it is well to speak with considerable caution. There are some cases in which they are markedly beneficial, as there are others in which they are just as clearly injurious, and the trouble is, that it is very difficult to distinguish these cases. Possibly we can only tell by the result—a rather unpleasant way of administering remedies.

In many cases the use of a large basin of water, either warm or cold, (but gradually getting it cooler if it has to be used warm at first,) applied with the hand, the woman sitting over it, will be found the best means. Even a solution of chlorate of potash, or a weak astringent wash, may be used in this way with advantage. But in the larger number, all that we want is cleanliness, and the strengthening effect that may be obtained from the use of water.

Injections have a very wide range, from a simple weak solution of chlorate of potash or borax, to the strong vegetable or mineral astringents. It is hardly worth while to give formulas for them, as every physician will find in his text books the common prescriptions. I have used an infusion of equal parts of rumex, alnus and quercus rubra with excellent effects in some old cases of vaginitis, and ulceration with good results, and I have also used carbolic acid and sulphurous acid in others. The trouble with carbolic acid is its very unpleasant



## APPENDIX.

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### *THE REPRODUCTIVE FUNCTION.*

The reproductive function in man is so purely animal in its nature, and so little under the influence of the moral sentiments and the will, that we are surprised, not that diseases of these organs are found, but that they are not of more frequent occurrence. The intense passional feeling that prompts intercourse between the sexes, may be and is controlled by education in the majority, but in a minority it is so in excess that it must and will have gratification at any risk, moral or physical.

It is probable that this needs be to perpetuate the species, otherwise the cares of parentage, and the struggles necessary to provide for offspring, would so influence man that the race would soon be extinct. As it is, there is no condition so abject, no suffering so great, and no future so miserable, that men will not endure it to gratify this passion.

Society provides for its normal gratification, and for its legitimate uses, by the marital relation. The pairing of the sexes is a law of nature; how it shall be done is a law of society, and is the outgrowth, as a general rule, of the needs of the people. In different ages of the world and in different countries we find variations of the marriage relation. In the early ages of mankind, this relation was, in all probability communistic, there being no bonds between individual males and females, the women of a tribe being held in common. This would place a man on the plane of the animal and vegetable kingdom, to



the law of "natural selection," and the "survival fittest." Following this, came a division of woman the males, as a species of property; and as with other property, the stronger and more intelligent would secure the largest number, polygamy was the first result.

As men became organized into societies, and individual rights were recognized, the right of each man to a wife was conceded, and as the sexes became equal in number, monogamy was the necessary result.

If we are to study this subject intelligently, and especially with reference to the prevention of disease, it is not that we fully comprehend the nature of the reproductive function, the intense and sometimes uncontrollable passion, the attraction between the sexes, and the outgrowth from the marital relation and its laws as a means of protection against the abuse of the sexual organism. If any apology is necessary for the free discussion of the subject, this may be my apology.

#### THE MORAL ASPECT OF THE CASE.

We are met at the threshold of this investigation by a class of moralists who say—"it is not wise to discuss this subject;" "it is impure and can but lead to impurity." Whilst it is patent to all that the "social evil," so called, runs riot, and that our whole people are influenced to some extent by sexual vice, these say that from its very nature it must not receive consideration from society or from law. Especially do they insist that no means looking to the eradication of the evil shall be adopted, because that would necessitate its recognition—"there is only one way, the commandment—Thou shalt not commit adultery."

Such teachers ignore the necessity of the reproductive function, the intensity and at times uncontrollable character of the passional desires of the sexes, and that it must have satisfaction, and that it may be controlled to the good of society or abused to its harm.

With these everything is good that is covered by the marital relation, everything is evil outside of it. Covered with the marital mantle, they give unbridled license to their own passions, frequently at the expense of the health, happiness and lives of their hapless wives, and yet they can not see that other men and women are of like nature with themselves. Such men are pious and religious withal, but their piety is pharisaical and their religion based upon precepts four thousand years old, which were given for the guidance of a peculiar and pastoral people. The commandment, "thou shalt not commit adultery," reads very differently in an age and to a people who practiced polygamy, and could have wives sufficiently to satisfy their desires, to what it would in these times and to our people, when it is difficult to get and support one wife.

If those who dispense religion are to control popular opinion on these subjects, and thus force law-makers and sociologists to ignore the evils that follow sexual vice, only in so far as they enforce the prohibitory law of Moses, then indeed we can not expect any relief. Experience has shown that no wrong of this character can be righted by prohibitory laws, and that it will not grow less by ignoring its existence.

The Christain religion *misalled*, which enforces the harsh rule of Moses, "Thou shalt not," instead of the gentle precept, "Come unto me all ye that labor and are heavy laden," of the Divine Teacher, stands to-day, as it has stood for a thousand years, in the way of *every* effort to control sexual wrong, and efface venereal disease. It stones the "woman taken in adultery," instead of saying, "Neither do I condemn thee; go, and sin no more."

With an education that postpones retribution to a future state, and promises relief from the consequences of all wrongdoing by simple repentance, at that period of life, possibly, when the capacity for wrong-doing is lost, we can hardly expect that these wrongs will be righted. It might not be necessary to say this, it would not be necessary to speak of

ating disease. Enforce the laws of  
and above all, provide for the  
years of Jubilee for an equalization  
all of the olden time or none.

Our civilization has within it, and  
it, the germs of prostitution and all  
tion, habits, and methods of life, the  
opment of sexual passion, and of need  
when marriage is not possible or safe.

We fiercely denounce polygamy  
hammedan or Mormon, yet wink at  
women is a vice of the wealthy in  
the man all sexual sins inside or out  
tion, yet deny to the woman the ch  
reformation, and to the child born o  
protection, and support of its father.

#### PHYSIOLOGY A BETTER GUIDE

Physiology is the best guide to a  
subject. If we can understand clearly  
the reproductive instincts, how they  
the good of the individual and the  
be controlled by calling into action  
and mind, we will be in a better posi-

the contrary the child is educated and trained to work, the sexual instinct remains in abeyance, until such time as it may have legitimate use.

If one would train children to avoidance of these evils, he would call into activity other functions of the mind, strengthen the will, develop the body, and give no food to sexual desire. Chastity was a necessary result of the full development of man in the olden time. The mental and physical gymnast of Greece or Rome had abundant procreative power, and yet we do not learn that it was ever abused, as in our time. We do not learn in the history of the memorable voyage of the Trojan chief Eneas, that Dido or other of womankind had to suffer from their libidinous desires.

### GONORRHOEA.

Gonorrhœa is a specific inflammation of mucous membranes, produced by contact with gonorrhœal virus. Whilst confined to the urethra in the male, and the external and internal organs of generation in the female, in the majority of instances, it may affect any mucous surface in the body. Whilst the disease is caused by contact with gonorrhœal virus, in its progress it reproduces the same, which may serve as a center for further infection.

As regards the gonorrhœal virus itself we know but little, further than it is a muco-pus, produced during the gonorrhœal inflammation. In its physical properties, it does not differ materially from the products of simple inflammation, further than it is usually in large quantity.

As the disease is dependent upon a specific virus, contact with this is essential to its production. This usually occurs during sexual congress with a person diseased; and we may take it for granted, in a large majority of cases, that the disease is thus contracted. Of course there are exceptions: in one out of a thousand cases a man may contract a gonorrhœa from sitting on a person having the disease, sleeping with a person, or



A period of *incubation*, of long  
ensues after exposure. The close  
this is from thirty-four hours to  
many patients who contend that a  
two or three weeks have elapsed  
any symptoms. While I am of the  
manifests itself before the fourth day  
I must still believe there are cases in  
dormant for a considerable time.

Sexual intercourse with one suff  
said to produce peculiar sensations,  
suspected. Among these is a severe  
burning, sometimes associated with  
ment. These sensations are some  
organs may not lose them until t  
nounced.

In the male, the first symptom  
feeling of pricking and itching in  
meatus, which soon becomes so in  
pleasant ; the patient also feels a se  
as if there was something foreign t  
nate and evacuate it. By the end  
symptoms have become real pain,  
frequent desire to urinate, and a sea

drops with much tenesmus. There is a constant sensation of fullness, tension, and soreness, which is very unpleasant. The discharge has become free, and is a yellowish, somewhat creamy muco-pus, its fluidity varying in different cases; sometimes it possesses a peculiar unpleasant odor.

If the penis is now examined the meatus will be found red, slightly everted or pouting, and on separating it the mucous membrane will be observed red and swollen. The part of the urethra diseased is swollen and hard, and pressure produces pain. In a majority of cases the disease is located, at first, about an inch and a half from the meatus, where there are numerous large lacunæ, but as time passes it gradually extends to other portions.

Painful erection, or chordee, makes its appearance now in many cases. These erections occur when the patient gets warm in bed—sometimes several times in a night—and prove a source of very great annoyance. In consequence of the inflammation, complete distension of the corpus spongiosum is impossible, or the urethra fails to attain the length necessary in erection, hence the downward curvature of the penis, the pain being consequent upon traction upon the inflamed structure.

When the case is left to itself the discharge usually increases for a week or ten days, remains stationary for about the same length of time, and then decreases until nothing remains but a slight gleet. During the first period the suffering is greatest, but the pain and scalding in passing water gradually diminish during the second, and at last become so mitigated as to give but little trouble.

In some cases the prepuce becomes much swollen from serous exudation, and phimosis is the result. These are usually troublesome cases, and sometimes complicated with balanitis, or posthitis.

Though from the symptoms enumerated we might suppose there would be little difficulty in diagnosis, and in a majority of cases a simple inspection of the penis tells the story, there are cases which require a very careful examina-

contracted it from but one source of unchastity. But an examination of the disease. These facts should cause giving an opinion, when there is a

Chancre of the urethra sometimes in all its symptoms, though there is great a discharge. I have, myself, in a case, though I use much care in the treatment, came to my notice in which the patient had an intractable gonorrhœa, having last examination detected an indurated chancre within the meatus.

TREATMENT.—Persons suffering from this disease are extremely anxious for a speedy cure, and are often impatient, for the disease is not only painful, but is so annoying to a person as to interfere with his business. In many cases the mental suffering is very great, and the chagrin and loss of sleep are sufficient to impair the general health. Some persons, however, get used to it, and some are so stoical as to regard it as a boy would a whipping. The question is, as to a speedy cure.

Speedy cures do not come from the use of the abortive plan that we are about

and will run its course in a majority of cases in from six to ten weeks. Still there are some in which the gonorrhoeal virus is reproduced for a long period, though the local symptoms are but slight. This is the case even where the disease is treated with the ordinary remedies.

**LOCAL TREATMENT.**—Cleanliness is essential in all plans of treatment, not only for the patient's comfort, but to facilitate the cure. Frequent penis baths of cold water, the parts being thoroughly cleansed, give very marked relief. In some cases the warm bath is preferable, and we have it used frequently, and for twenty or thirty minutes at a time.

An English author states that the disease treated by a druggist has an average duration of more than one hundred days. Treated by the general practitioner, the duration is fifty days. If the sufferer will lead a regular life, attending strictly to cleanliness, we think we could promise him a cure in fifty days. The older treatment with harsh caustic injections, will sometimes abort the disease, but occasionally it leads to a violent inflammation, which causes a life-long trouble.

Probably as safe a treatment as could be advised would be, for internal use for the first four days, the following prescription: *R* Tincture of *Veratrum* ten drops, Tincture of *Gelsiminum* one drachm, water four ounces; dose, one teaspoonful every two or three hours. Following this prescription, *Cannabis Indica* ten drops, *Macrotys* one drachm, water four ounces.

For injection nothing will be found better than fluid *Hydrastis*. Lloyd's Colorless *Hydrastis* being the preparation. It should be carefully used with a syringe, two or three times a day. This injection, without any internal remedies, will sometimes cure the disease inside of two weeks.



**SYPHILIS.**

The term syphilis is used to designate a class of disease produced by a specific poison, which is generated during the disease and propagated by contact. As regards the character of the virus we know nothing, further than it resembles the poison of other contagious diseases in its respects. It acts in the most minute quantity, as we use large amounts, and differs from the organic poisons of other diseases in character, in that its influence is protracted and it causes permanent, and instead of manifesting a definite course of phenomena, and being then eliminated, it seems to persist in its character with time, and gives rise to many different forms of disease.

Though the disease undoubtedly arises from prostitution, it is now generally admitted that it does not now arise *de novo*, but is invariably the result of inoculation with the syphilitic virus. This virus is contained in pus, generated in syphilitic inflammation, and in no respect that we are aware of does it differ from the product of ordinary inflammation. Thus the pus may be thin, thick, ropy, creamy, yellow, greenish, white, transparent, opaque, bland, plastic, amorphous, alkaline, acid, or neutral; each presenting the contagious element. This pus will retain its virulent properties for many weeks, if excluded from contact with air, and Sperlino gives a case where the matter, dried upon a lancet, was successfully inoculated after seven months.

It is generally supposed that this pus is only found in primary sores, called chancres, and that other syphilitic lesions do not produce the virus. This, however, is a disputed point, and I am inclined to the opinion that it is incorrect, though we will have more to say of this hereafter.

The syphilitic virus is communicated in different ways, but we will find, in a very large majority of cases, that the patients get it in the *natural way*, by sexual intercourse. However, the virus is brought in contact with a mucous membrane, or any abraded surface, syphilis will

whether this has been done by the fingers, by linen, dressing, towels, surgical instruments, sponges, a privy seat, a chamber utensil or bed covering. A surgeon meets with many cases in which the person denies having contracted the disease by connection, but it is only in rare cases where those other means have been the cause of it. I have known chancre of the hands contracted by dressing chancre of the penis, and by attendance upon a woman in labor suffering from the disease; chancre of the lip contracted from kissing; but these are exceptional cases, and we may safely assume that chancre of the genital organs is the result of sexual congress.

As regards its action at first, there is a difference of opinion. Some claim that it is at first purely a local disease, the syphilitic poison being confined to the ulcer, where it may be destroyed. Others contend that absorption of the poison first occurs, and that chancre is the manifestation of that poison from the blood. I take the first view of the question, and feel entirely convinced that it is the correct one. Still the syphilitic virus may be soon absorbed from the chancre, may in fact be absorbed from the mucous surface before the chancre is formed, and impregnation of the system thus occurs at a date so early as to render futile the usual abortive measures.

In the description of syphilis we may properly divide the disease into two forms, *primary* and *secondary*—the first embracing the period of the chancre or original sore; the second the constitutional effects of the syphilitic poison when absorbed.

#### PRIMARY SYPHILIS.

In the consideration of primary syphilis we are met with a difficulty at the very threshold of the subject. All good authorities have recognized two forms of chancre—the *soft* and *hard or indurated*, but of late it is urged that soft chancre is an entirely distinct disease and does not give rise to secondary accidents.

time use the summary argument applied to cancer; if it is a cancer have cured it, it was no cancer. So if the system was infected it was a soft chancre will not infect.

#### BUBO.

By the term bubo we understand the lymphatic glands, first above attended with more or less inflammation. The seat of the chancre is upon the external bubo located in the groin, and associated with syphilis, many persons think of the glands of this region must be infected. However, is not the case, as they may become inflamed by irritation or inflammation of adjacent glands.

The symptoms of bubo are usually observed from six to ten days after the commencement of the chancre. The first sign of the bubo is a swelling of one or more glands which will be observed to be adherent to adjacent tissue, but movable, and are generally slightly tender on pressure. The swelling increases with greater or less rapidity; in some cases it will elapse before inflammation fairly

amined it will be found red, sometimes dusky or livid, and the temperature and sensibility increased. In some cases the inflammation is very high, and all the symptoms severe, the patient suffering very much and being confined to his room. In no case can we determine with much exactness as to the future progress of the disease. Sometimes suppuration is very rapid and only a few days elapse before the pus points; but in others week after week will drag along, and when the abscess is opened suppuration is but partial.

#### CHANCER.

The initial lesion of syphilis has a well marked period of incubation, ranging from two to six weeks. In some cases we will find patients expressing surprise at the appearance of an ulcer, when they have almost forgotten the time of exposure; or when it has appeared after a recent connection with one that they would not suspect, forgetting a previous exposure.

As we have already seen, the typical chancre makes its appearance as a papule or tubercle, and not as a vesicle or pustule. This nodular engorgement may sometimes be noticed before ulceration, but usually when the patient presents himself for treatment, there is erosion of the epithelium, and secretion of pus. This sore runs a very slow course, does not secrete freely, is not very sensitive, and occasions but little uneasiness. The induration is within the skin or mucous membrane, and rarely involves the connective tissue, hence the ulcer and induration are freely movable upon the tissue below.

#### INDURATED OR HUNTERIAN CHANCER.

The induration is distinct from the adjacent tissues, in which it seems imbedded, in shape and size very much like a pea, and is somewhat elastic like cartilage. If upon being pressed and moved in any direction, it is found to be firmer than anything else. In a



majority of cases it assumes a circular form, is very irregular, and its cavity is cup-shaped, with smooth sometimes slightly overhanging. It secretes but little in many cases the bottom of the ulcer is covered with grayish, plastic matter, but in others the entire surface is smooth, and with scarcely any secretion. The edges are sloping, hard and elastic.

The hard chancre almost always leaves some induration after it has healed, marking its situation for months or sometimes for years. The common form in which the induration is less marked, may or may not leave induration, depending somewhat upon the treatment. The chancroid rarely leaves induration.

It might seem from what has been said that the diagnosis of chancre is easy, and so it is to the expert who has made the disease a special study. But to others it is sometimes a matter of much difficulty. Ulceration simulating chancre sometimes occurs in balanoposthitis, and occasionally ulceration of the follicles back of the cornea resembles chancre; however, the part be closely examined, bearing in mind the description of the disease as above given, a mistake does not occur. To avoid error, it is best to treat all suspicious ulcers upon the genitals, as if they were syphilitic. Secondary syphilitic ulceration may be determined by the existence of other symptoms of constitutional infection.

In urethral chancres mistakes are frequently made, gonorrhoea simulates chancre. Yet in this case it is easily noticed that many of the symptoms of gonorrhoea are absent; the discharge is not so great, and close examination will detect induration. In others, though rare cases, a chancre on the lip, hand, or anus, may not be recognized, for the reason that the disease is not looked for in those places.

Occasionally a case will present itself in which the patient has decided secondary symptoms, without ever having been aware of having had the primary disease. In some of these cases, the chancre is small, secretes but little, is not painful, and in a week or so nothing but a slight induration remains.

detected by the practiced eye. In others the virus is no doubt absorbed without ulceration, and the only evidence of the primary disease is induration of the lymphatic glands, sometimes very slight.

The period of constitutional infection is not determined. Some authorities claim that syphilis commences by an absorption of the specific virus, and that the chancre is but the first manifestation of the disease from the blood. That being thus constitutional from its commencement, there can be no such thing as an abortion of the disease by local treatment. Others claim that for a short time after the formation of the chancre it should be regarded as strictly a local disease, and that proper means for the destruction of the sore will prevent constitutional infection. The period named in which such local abortive treatment will prove successful, is from two to eight days. For my own part I believe there is constitutional infection from the day of exposure, if the person is infected, and though an early arrest of the local disease is desirable, it will not prevent secondary symptoms.

**TREATMENT.**—In the treatment of the local sore we have to choose between a dry and a wet dressing. Cauterization, as a rule, is injurious, retards healing, and renders the constitutional disturbance greater.

As a wet dressing, nothing will be found better than a saturated solution of Borax, which may be applied sufficiently often to keep the part thoroughly clean. Still better than this, and especially for true chancre, a dry dressing of subnitrate of bismuth will be found to give relief, and aid in healing the sore. The sore should be filled with the powdered bismuth and the prepuce drawn down carefully so as to retain it. In place of the bismuth, powdered boracic acid may be used in the same way.

In true syphilis, the general treatment can be commenced at the first appearance of the secondary symptoms—the red eruption of the skin, or the falling of the hair. At this time a *weak* solution of Corydalis or Stillingia, or of Yellow Dock and Scrofularia, may be taken freely. In place of this

the compound tincture of *Corydalis* or the compound of *Stillingia*, or the *Succus Alterans*, otherwise known as McDaid's prescription, may be taken three or four times a day. The efficiency of the medicine is increased when taken with from two to four ounces of hot water. Iodine of Potassium is a most serviceable remedy if used when indicated; when not indicated it exerts the same influence as mercury, causing a retention of the poison in the system years, and sometimes for life.

*Indications.*—It may be taken when the tongue or mouth is evidently enlarged and pallid, or when it shows inflammation as if material was deposited under the mucous membrane, or when there are ulcers with a hard and prominent base, or when the deposit in the skin gives it a distinct elevation. The dose will be from five to twenty grains three times a day, half a glass of water, three times a day. Never take it in a syrup.

Time is a very important element in the treatment of syphilis. Right living is absolutely necessary; cleanliness is better than godliness; and, rejecting mercury, any one may be assured that in from one to five years he may recover from it.

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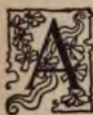
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